

GenCore version 5.1.3
Copyright (c) 1993 - 2002 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: December 6, 2002, 22:09:46 : Search time 230 Seconds
(without alignments)
14931.728 Million cell updates/sec

Title: US-10-025-514-15

Perfect score: 1525

Sequence: 1 tctagaccatgagacacct.....ccagtcaggccttagtcgac 1525

Scoring table: IDENTITY_NUC

Gapop 10.0 , Gapext 1.0

Searched: 2185239 seqs, 112599159 residues

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : N_Geneseq_101002.*
1: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1980.DAT.*
2: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1981.DAT.*
3: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1982.DAT.*
4: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1983.DAT.*
5: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1984.DAT.*
6: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1985.DAT.*
7: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1986.DAT.*
8: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1987.DAT.*
9: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1988.DAT.*
10: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1989.DAT.*
11: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1990.DAT.*
12: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1991.DAT.*
13: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1992.DAT.*
14: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1993.DAT.*
15: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1994.DAT.*
16: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1995.DAT.*
17: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1996.DAT.*
18: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1997.DAT.*
19: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1998.DAT.*
20: /SID22/gcgdata/geneseq/geneseqn-emb1/NA1999.DAT.*
21: /SID22/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT.*
22: /SID22/gcgdata/geneseq/geneseqn-emb1/NA2001A.DAT.*
23: /SID22/gcgdata/geneseq/geneseqn-emb1/NA2001B.DAT.*
24: /SID22/gcgdata/geneseq/geneseqn-emb1/NA2002.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1525	100.0	1525	24	ABK88025
2	1197.4	78.5	1582	24	ABK88027
3	1197.4	78.5	1756	24	ABK88026
4	1191.6	78.1	1525	24	ABK88022
5	1188.8	78.0	1756	24	ABK88023
6	1187	77.8	1582	24	ABK88024
7	1182	77.5	1182	24	ABK88015
8	628.4	41.2	1260	19	AAV41730
9	432.2	28.3	1312	16	AA089254

10	432.2	28.3	1312	19	AAV28471	Nucleotide sequenc
11	432.2	28.3	1312	21	AA290199	Human alpha1-anti
12	429.2	28.1	1367	22	AA945052	cDNA encoding nove
13	429	28.1	1185	19	AAV41726	Native coding sequ
14	429	28.1	1352	13	AAQ31403	Human alpha-1 anti
15	429	28.1	1352	24	ABU67511	Thyroid cancer rel
16	429	28.1	1371	24	ABK84495	Human cDNA differe
17	429	28.1	1371	24	ABL67510	Thyroid cancer rel
18	429	28.1	1433	10	AA910177	Sequence encoding
19	429	28.1	1434	5	AA40078	Sequence encoding
20	429	28.1	1434	20	AA83548	Human alpha1-anti
21	429	28.1	5932	21	AA245928	Nucleotide sequenc
22	429	28.1	6142	21	AA245932	Nucleotide sequenc
23	429	28.1	6142	21	AA245933	Nucleotide sequenc
24	429	28.1	6565	21	AA245925	Nucleotide sequenc
25	429	28.1	6714	21	AA245930	Nucleotide sequenc
26	429	28.1	6924	21	AA245934	Nucleotide sequenc
27	429	28.1	6924	21	AA245935	Nucleotide sequenc
28	429	28.1	6981	21	AA245931	Nucleotide sequenc
29	429	28.1	7054	21	AA245927	Nucleotide sequenc
30	428.6	28.1	7405	21	AA245926	Nucleotide sequenc
31	427.6	28.0	1189	13	AAQ21125	Alpha-1-antitryps
32	427.4	28.0	1352	18	AA72858	Human alpha-1-anti
33	425.8	27.9	1312	10	AA97127	Sequence of alpha-
34	425.8	27.9	1434	10	AA90341	Sequence of alpha-
35	425.4	27.9	1185	7	AA60417	Human alpha 1-anti
36	424.2	27.8	1378	13	AAQ23746	Alpha-1 antitryps
37	424.2	27.8	1396	11	AAQ03184	Entire sequence of
38	422.6	27.7	1423	6	AA50425	Sequence encoding
39	421	27.6	1299	6	AA50510	Sequence of human
40	421	27.6	1378	6	AA50021	Sequence encoding
41	407	26.7	1390	22	AA23089	Osteoarthritis tis
42	402.6	26.4	2013	24	ABL59152	Sequence of fusion
43	372.6	24.4	1242	18	AA79493	Protease inhibitor
44	359.8	23.6	1242	18	AA78180	Recombinant squirr
45	357	23.4	1312	10	AA91078	Alpha-1-antitryps

ALIGNMENTS

RESULT 1
ABK88025
ID ABK88025 standard; DNA; 1525 BP.
XX
AC ABK88025;
XX
DT 07-OCT-2002 (first entry)
XX
DE DNA sequence encoding rSLAP1 fusion protein.
XX
KW rSLAP1; gene; ds; Alzheimer's disease; tumour angiogenesis;
KW malaria; emphysema; asthma; chronic obstructive pulmonary disease;
KW cystic fibrosis; otitis media; otitis externa; HIV; psoriasis; eczema;
KW human immunodeficiency virus; atopic dermatitis; muscular dystrophy;
KW herpes; ulceration; sepsis; rheumatoid arthritis; periodontal disease;
KW tumour metastasis; osteoporosis; Paget's disease; scleroderma;
KW glomerulonephritis; hypertension.
XX
OS Homo sapiens.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT RBS 6..8
FT /tag= a
FT /standard_name= "Ribosome binding site"
FT CDS 9..1520
FT /tag= b
FT /product= "rSLAP1 fusion protein"
FT DNA sequence encod 12..1193
FT misc_feature /tag= c
FT /note= "AAT coding region"
FT misc_feature 1194..1196

Mon Dec 9 12:50:32 2002

FT /tag= d
 FT /note= "linking codon"
 FT 1197..1517
 FT /tag= e
 FT /note= "SLPI coding region"

WO200250287-A2.

27-JUN-2002.

18-DEC-2001; 2001WO-US49256.

18-DEC-2000; 2000US-256699P.

20-NOV-2001; 2001US-331966P.

(ARRI-) ARRIVA PHARM INC.

Barr PJ, Gibson HL, Pemberton P;

WPI; 2002-500631/53.

P-PSDB; AAU99884.

Novel fusion protein useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, comprises a first protease inhibitor comprising alpha 1-antitrypsin and a second protease inhibitor -

Example 3; Page 89-90; 134pp; English.

This invention relates to a novel fusion protein comprising a first protease inhibitor comprising an alpha1-antitrypsin or its functionally active portion and a second protease inhibitor or its functionally active portion. The fusion proteins of the invention may act as an inhibitor of protease activity. The fusion protein of the invention is useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, chronic obstructive pulmonary disease, cystic fibrosis, otitis media, otitis externa or HIV infection, or for treating an individual suffering from or at risk for a disease or disorder involving unwanted protease activity. The proteins are useful for treating dermatological diseases such as atopic dermatitis, eczema and psoriasis, in inflammatory responses to viral infection, and for treating herpes infection, corneal or epidermal ulceration, chronic non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease, tumour metastasis and tumour angiogenesis, gastric ulceration, osteoporosis, Paget's disease, glomerulonephritis, scleroderma, malaria, bacterial infection, Alzheimer's disease, hypertension and muscular dystrophy. The present sequence represents the DNA encoding the rSLAP1 fusion protein of the invention.

Sequence 1525 BP; 467 A; 287 C; 314 G; 457 T; 0 other;

Query Match 100.0%; Score 1525; DB 24; Length 1525;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 1525; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TCTAGACCATGGAAGACCTCAAGCGAGCGCGCTCAAAAAACCGACACGATCATCAG 60
 DB 1 TCTAGACCATGGAAGACCTCAAGCGAGCGCGCTCAAAAAACCGACACGATCATCAG 60
 QY 61 ACCAAGACCATCGGACTTTTAAATAAATTACTCCAAATTTAGCCGAATTTGCTTTTCTT 120
 DB 61 ACCAAGACCATCGGACTTTTAAATAAATTACTCCAAATTTAGCCGAATTTGCTTTTCTT 120
 QY 121 TGTATAGCAATTTAGCTCATCAAGTAATTTCTACTAACATTTTTTTTAGTCTCTGTTCTTA 180
 DB 121 TGTATAGCAATTTAGCTCATCAAGTAATTTCTACTAACATTTTTTTTAGTCTCTGTTCTTA 180
 QY 181 TTGCCACTGCTTTGCCATGTTGAGTTTAGGTTACTAAAGCCGATACCAATGACGAGATT 240
 DB 181 TTGCCACTGCTTTGCCATGTTGAGTTTAGGTTACTAAAGCCGATACCAATGACGAGATT 240
 QY 241 TAGAAGGTTTAACTTTAATTTGACCGAATCCAGAACCCCAAAATTCACGAGGTTTTC 300
 DB 241 TAGAAGGTTTAACTTTAATTTGACCGAATCCAGAACCCCAAAATTCACGAGGTTTTC 300

DB 241 TAGAAGGTTTAACTTTAATTTGACCGAATCCAGAACCCCAAAATTCACGAGGTTTTC 300
 QY 301 AAGAGTTGTTGAGAACCTTTGAATCAACCTGATCTCTCAATTTGCAATTAACCTACTGTTAAG 360
 DB 301 AAGAGTTGTTGAGAACCTTTGAATCAACCTGATCTCTCAATTTGCAATTAACCTACTGTTAAG 360
 QY 361 GTTTATTTTCTGCTGAAGGTTTAAAAATTTGGTTGACAAATTTCTTGAAGAGCTCAAGAAAC 420
 DB 361 GTTTATTTTCTGCTGAAGGTTTAAAAATTTGGTTGACAAATTTCTTGAAGAGCTCAAGAAAC 420
 QY 421 TATATCATAGTGAGGCTTTTACCCTTAATTTTGGTGATCTGAGGAAGCTAAAAAGCAAA 480
 DB 421 TATATCATAGTGAGGCTTTTACCCTTAATTTTGGTGATCTGAGGAAGCTAAAAAGCAAA 480
 QY 481 TTAATGATTTGTTGAGAAAGCCACCGAGGTAAGATGTTGACCTAGCTTAAAGAAATAG 540
 DB 481 TTAATGATTTGTTGAGAAAGCCACCGAGGTAAGATGTTGACCTAGCTTAAAGAAATAG 540
 QY 541 ATCGTGATACCGCTTTCGCACCTAGTTAACTATATTTTTTCAAGGGTAAGTGGGAACGTC 600
 DB 541 ATCGTGATACCGCTTTCGCACCTAGTTAACTATATTTTTTCAAGGGTAAGTGGGAACGTC 600
 QY 601 CTTTCGAGGTTTAAAGATCTGAAGAGAGAGATTTTCATGTTGATCAAGTACTACTGTCAC 660
 DB 601 CTTTCGAGGTTTAAAGATCTGAAGAGAGAGATTTTCATGTTGATCAAGTACTACTGTCAC 660
 QY 661 AAGTTCCAATGATGAAGAGACTGGGTATGTTCAATATTAACATTTGCAAAAAATTAAGTT 720
 DB 661 AAGTTCCAATGATGAAGAGACTGGGTATGTTCAATATTAACATTTGCAAAAAATTAAGTT 720
 QY 721 CTTGGGCTTTAATTAAGAGTATTTAGGTAACGCTACTGCTATTTTTTTTACCAGAGC 780
 DB 721 CTTGGGCTTTAATTAAGAGTATTTAGGTAACGCTACTGCTATTTTTTTTACCAGAGC 780
 QY 781 AAGGTAAGCTTCAACATTTAGAGATGAGTTGACATGACATTTACTATAATTTTAAAG 840
 DB 781 AAGGTAAGCTTCAACATTTAGAGATGAGTTGACATGACATTTACTATAATTTTAAAG 840
 QY 841 AGAACGAGGATCTGCTAGGCTTCTGCACTGCTGCAAAAGTTAAGTATCACCGGTACTT 900
 DB 841 AGAACGAGGATCTGCTAGGCTTCTGCACTGCTGCAAAAGTTAAGTATCACCGGTACTT 900
 QY 901 ACGACTTAAATCTGTTTTAGGCCAGTTAGGTAATACCAAAAGTTTTTTTCTAACGGTCCG 960
 DB 901 ACGACTTAAATCTGTTTTAGGCCAGTTAGGTAATACCAAAAGTTTTTTTCTAACGGTCCG 960
 QY 961 ATTTGAGTGGTTTACTGAGAGAGCTCCATTAATTTAGTAAGCTGTTTCAAAAAGCCG 1020
 DB 961 ATTTGAGTGGTTTACTGGAAGAGCTCCATTAATTTAGTAAGCTGTTTCAAAAAGCCG 1020
 QY 1021 TCTTAACCTATTGATGAAAAAGGTTACCGAGCGCGCGCTATGTTCTCTGGAAGCTATTTC 1080
 DB 1021 TCTTAACCTATTGATGAAAAAGGTTACCGAGCGCGCGCTATGTTCTCTGGAAGCTATTTC 1080
 QY 1081 CAATGAGCATTTCCACAGAGTTAAATTTAATAAACCATTCGTTTTCTCATGATCGAGC 1140
 DB 1081 CAATGAGCATTTCCACAGAGTTAAATTTAATAAACCATTCGTTTTCTCATGATCGAGC 1140
 QY 1141 AGAACACTAAAGCCCATTTGTTTATGAGTAAGTTTCAACCCCACTCAGAAGATGTCG 1200
 DB 1141 AGAACACTAAAGCCCATTTGTTTATGAGTAAGTTTCAACCCCACTCAGAAGATGTCG 1200
 QY 1201 GAAAGTCTTTTCAAGGCCGGTGTGTTGTCACCAAGAGAGTCCGGCTCAATGTTTGAGATACA 1260
 DB 1201 GAAAGTCTTTTCAAGGCCGGTGTGTTGTCACCAAGAGAGTCCGGCTCAATGTTTGAGATACA 1260
 QY 1261 AGAAGCCAGATGCAATCCGACTGGCAATGTCAGAGTAAAGAGATGTTTGTCCAGACA 1320
 DB 1261 AGAAGCCAGATGCAATCCGACTGGCAATGTCAGAGTAAAGAGATGTTTGTCCAGACA 1320
 QY 1321 CTTGTGGTATCAAGTGCTTAGACCCAGTTGACACCCCAACCCCACTAGAGAAGGCCAG 1380
 DB 1321 CTTGTGGTATCAAGTGCTTAGACCCAGTTGACACCCCAACCCCACTAGAGAAGGCCAG 1380


```
Db 661 AAGTTCATGATGAAGAAGCTGGGTATGTTCAATATTCACATTCGCAAAAAATTAAGTT 720
QY 721 CTGGGCTTATTAATGAAGTATTAGTAACGCTACTGCTATTTTTTTTACCAGACG 780
Db 721 CTGGGCTTATTAATGAAGTATTAGTAACGCTACTGCTATTTTTTTTACCAGACG 780
QY 781 AAGGTAAGCTTCAACATTTAGAGAAATGAGTTGACTCATGACATTTACTAAATTTTAG 840
Db 781 AAGGTAAGCTTCAACATTTAGAGAAATGAGTTGACTCATGACATTTACTAAATTTTAG 840
QY 841 AGAAGGAGGATCGCTAGCGCTTCTCTGACCTGCCAAAGTTAAGTATCACCGGTACTT 900
Db 841 AGAAGGAGGATCGCTAGCGCTTCTCTGACCTGCCAAAGTTAAGTATCACCGGTACTT 900
QY 901 ACGACTTAAATCTGTTTTAGCCAGTTAGTATTAACAAAGTTTTTCTAACGGTCCG 960
Db 901 ACGACTTAAATCTGTTTTAGCCAGTTAGTATTAACAAAGTTTTTCTAACGGTCCG 960
QY 961 ATTTGAGTGGTGTACTCAAGAAGCTCCATTAATAATGAGTAAAGCTGTTTACAAAACCG 1020
Db 961 ATTTGAGTGGTGTACTCAAGAAGCTCCATTAATAATGAGTAAAGCTGTTTACAAAACCG 1020
QY 1021 TCTTAACATTTGATGAAGAAGGTACCGAGCGCGCGCTATGTTCTCGAAGCTATTC 1080
Db 1021 TCTTAACATTTGATGAAGAAGGTACCGAGCGCGCGCTATGTTCTCGAAGCTATTC 1080
QY 1081 CAATGAGCATTCACCAAGTAAATTAATAAACCATTCGTTTTCTGATGATCAGC 1140
Db 1081 CAATGAGCATTCACCAAGTAAATTAATAAACCATTCGTTTTCTGATGATCAGC 1140
QY 1141 AGAACACTAAAGCCCATTTGTTGAGTAAAGTTGTCAACCCCACTCAGAAAGATGCC 1199
Db 1141 AGAACACTAAAGCCCATTTGTTGAGTAAAGTTGTCAACCCCACTCAGAAAGATGCC 1199

RESULT 3
ID ABR88026
XX ABR88026 standard; DNA; 1756 BP.
AC ABR88026;
XX
XX 07-OCT-2002 (first entry)
XX
XX DNA sequence encoding rTAP1 fusion protein.
DE
DE rTAP1; gene; ds; Alzheimer's disease; tumour angiogenesis;
KW malaria; emphysema; asthma; chronic obstructive pulmonary disease;
KW cystic fibrosis; otitis media; otitis externa; HIV; psoriasis; eczema;
KW human immunodeficiency virus; atopic dermatitis; muscular dystrophy;
KW herpes; ulceration; sepsis; rheumatoid arthritis; periodontal disease;
KW tumour metastasis; osteoporosis; Paget's disease; scleroderma;
KW glomerulonephritis; hypertension.
XX
XX Homo sapiens.
OS Synthetic.
XX
XX Key Location/Qualifiers
FT RBS 6..8
FT /tag= a
FT /standard_name= "Ribosome binding site"
FT CDS 9..1751
FT /tag= b
FT /product= "rTAP1 fusion protein"
FT misc_feature 12..1193
FT /tag= c
FT /note= "AAT coding region"
FT misc_feature 1194..1196
FT /tag= d
FT /note= "linking codon"
FT misc_feature 1197..1748
FT /tag= e
FT /note= "TIMP-1 coding region"
FT
```

```
XX WO200250287-A2.
XX 27-JUN-2002.
XX 18-DEC-2001; 2001WO-US49256.
XX 18-DEC-2000; 2000US-256699P.
XX 20-NOV-2001; 2001US-331966P.
XX (ARRI-) ARRIVA PHARM INC.
XX Barr PJ, Gibson HL, Pemberton P;
XX WPI; 2002-500631/53.
XX P-PSDB; AAU99889.
XX Novel fusion protein useful for inhibiting protease activity associated
XX with a disorder such as emphysema, asthma, comprises a first protease
XX inhibitor comprising alpha 1-antitrypsin and a second protease
XX inhibitor -
XX Example 3; Page 92-93; 134pp; English.
XX This invention relates to a novel fusion protein comprising a first
XX protease inhibitor comprising an alpha 1-antitrypsin or its functionally
XX active portion and a second protease inhibitor or its functionally
XX active portion. The fusion proteins of the invention may act as an
XX inhibitor of protease activity. The fusion protein of the invention
XX is useful for inhibiting protease activity associated with a disorder
XX such as emphysema, asthma, chronic obstructive pulmonary disease,
XX cystic fibrosis, otitis media, otitis externa or HIV infection, or
XX for treating an individual suffering from or at risk for a disease or
XX disorder involving unwanted protease activity. The proteins are useful
XX for treating dermatological diseases such as atopic dermatitis, eczema
XX and psoriasis, in inflammatory responses to viral infection, and for
XX treating herpes infection, corneal or epidermal ulceration, chronic
XX non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease,
XX tumour metastasis and tumour angiogenesis, gastric ulceration,
XX osteoporosis, Paget's disease, glomerulonephritis, scleroderma, malaria,
XX bacterial infection, Alzheimer's disease, hypertension and muscular
XX dystrophy. The present sequence represents the DNA encoding the
XX rTAP1 fusion protein of the invention.
XX
XX Sequence 1756 BP; 493 A; 394 C; 374 G; 495 T; 0 other;
XX
XX Query Match 78.5%; Score 1197.4; DB 24; Length 1756;
XX Best Local Similarity 99.9%; Pred. No. 5.7e-291;
XX Matches 1198; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 TCTAGACCATGGAGACCCCTCAAGGCGACGCCGCTCAAAAACCGACCATCATCAGC 60
Db 1 TCTAGACCATGGAGACCCCTCAAGGCGACGCCGCTCAAAAACCGACCATCATCAGC 60
QY 61 ACCAAGACCATCGACTTTTAAATAAATTAATTAATTAATTAATTAATTAATTAATTAAT 120
Db 61 ACCAAGACCATCGACTTTTAAATAAATTAATTAATTAATTAATTAATTAATTAATTAAT 120
QY 121 TGTATAGACAATTAGCTCATCAAAAGTAATTTACTTAACATTTTTTTTAGTCCTGTTCTA 180
Db 121 TGTATAGACAATTAGCTCATCAAAAGTAATTTACTTAACATTTTTTTTAGTCCTGTTCTA 180
QY 181 TTGCCACTGCTTCGCCCATGTTGAGTTAGTACTAAGCCGATACCCATGAGAGATTT 240
Db 181 TTGCCACTGCTTCGCCCATGTTGAGTTAGTACTAAGCCGATACCCATGAGAGATTT 240
QY 241 TAGAAGGTTTAACTTTAATTTGACCGAAATCCAGAAAGCCCAAAATTCAGAGGGTTTC 300
Db 241 TAGAAGGTTTAACTTTAATTTGACCGAAATCCAGAAAGCCCAAAATTCAGAGGGTTTC 300
QY 301 AAGAGTTGTTGAGAACCTTTGAATCAACCTGATTCCTCAATTTGCAATTAATTAATTAAT 360
Db 301 AAGAGTTGTTGAGAACCTTTGAATCAACCTGATTCCTCAATTTGCAATTAATTAATTAAT 360
```

```
QY 361 GTTATTTTCTGAAGGTTTAAATTCGTTGACAAATTCCTAGAGACGTCACGAAC 420
DB 361 GTTATTTTCTGAAGGTTTAAATTCGTTGACAAATTCCTAGAGACGTCACGAAC 420
QY 421 TATATCATAGTGAAGGTTTACCGTTTAAATTTGGTGATACCTAGGAGCTAAAGCAAA 480
DB 421 TATATCATAGTGAAGGTTTACCGTTTAAATTTGGTGATACCTAGGAGCTAAAGCAAA 480
QY 481 TTAATGATTATGTTGAGAAAGGACCCAGGTTAAGATCGTTGACCTAGTAAAGAAATTAG 540
DB 481 TTAATGATTATGTTGAGAAAGGACCCAGGTTAAGATCGTTGACCTAGTAAAGAAATTAG 540
QY 541 ATCGTGATACCGTCTTCGCACTAGTTAACTATATTTTTTCAAGGTAAGTGGAGCGTC 600
DB 541 ATCGTGATACCGTCTTCGCACTAGTTAACTATATTTTTTCAAGGTAAGTGGAGCGTC 600
QY 601 CTTTCGAGGTTAAAGTACTGAGAGGAAGATTTTCATGTTGATCAAGTTACTACTGTCA 660
DB 601 CTTTCGAGGTTAAAGTACTGAGAGGAAGATTTTCATGTTGATCAAGTTACTACTGTCA 660
QY 661 AAGTTCATGATGAAGAAAGACTGGGTATGTTCAATATTCACATTTGCAAAAAATTAAAGTT 720
DB 661 AAGTTCATGATGAAGAAAGACTGGGTATGTTCAATATTCACATTTGCAAAAAATTAAAGTT 720
QY 721 CTTGGGCTTATTAAATGAAGTATTTAGGTAACGCTACTGCTATTTTTTTTACCAGAGC 780
DB 721 CTTGGGCTTATTAAATGAAGTATTTAGGTAACGCTACTGCTATTTTTTTTACCAGAGC 780
QY 781 AAGTAAAGCTTCAACATTTAGAGAATGAGTTGACTCATGACATTTACTAAATTTTAAAG 840
DB 781 AAGTAAAGCTTCAACATTTAGAGAATGAGTTGACTCATGACATTTACTAAATTTTAAAG 840
QY 841 AGAACGAGGATCGTCGAGCGCTTCTGCACTGCAAGTAAAGTTAAGTATCACCGGTACTT 900
DB 841 AGAACGAGGATCGTCGAGCGCTTCTGCACTGCAAGTAAAGTTAAGTATCACCGGTACTT 900
QY 901 ACACCTTAAATCTGTTTAAAGGCTAGGTAATACCAAGTTTCTTAAAGGTCGCGC 960
DB 901 ACACCTTAAATCTGTTTAAAGGCTAGGTAATACCAAGTTTCTTAAAGGTCGCGC 960
QY 961 ATTTGAGTGGTGTACTGAGAAAGCTCCATTTAAATTTAGTAAGCTGTTTCAACAGCGC 1020
DB 961 ATTTGAGTGGTGTACTGAGAAAGCTCCATTTAAATTTAGTAAGCTGTTTCAACAGCGC 1020
QY 1021 TCCTAATGATGATGAAGGTTACGAGCGCGCGCGCGCTATGTTCTCGGAAGCTATTTC 1080
DB 1021 TCCTAATGATGATGAAGGTTACGAGCGCGCGCGCGCTATGTTCTCGGAAGCTATTTC 1080
QY 1081 CAATGAGCATTCACCAAGGTTTAAATTTAAATAAACCATTCGTTTCTGATGATCGAGC 1140
DB 1081 CAATGAGCATTCACCAAGGTTTAAATTTAAATAAACCATTCGTTTCTGATGATCGAGC 1140
QY 1141 AGAAGCTAAAGCCCATTTTATGGGTAAGGTTGTCACCACTCAGAGATGTC 1199
DB 1141 AGAAGCTAAAGCCCATTTTATGGGTAAGGTTGTCACCACTCAGAGATGTC 1199

RESULT 4
ABK8022
ID ABK8022 standard; DNA; 1525 BP.
AC
XX
AC
XX
07-OCT-2002 (first entry)
DT
XX
XX
DNA sequence encoding SLAP1 fusion protein.
DE
XX
XX
KW Yeast; alpha factor; gene; ds; Alzheimer's disease; SLAP1;
KW malaria; emphysema; asthma; chronic obstructive pulmonary disease;
KW cystic fibrosis; otitis media; otitis externa; HIV; psoriasis; eczema;
KW human immunodeficiency virus; atopic dermatitis; muscular dystrophy;
KW herpes; ulceration; sepsis; rheumatoid arthritis; periodontal disease;
```

KW tumour metastasis; tumour angiogenesis; osteoporosis; Paget's disease;
glomerulonephritis; scleroderma; hypertension.

OS Homo sapiens.
OS Synthetic.

Key Location/Qualifiers
RBS 6..8

FT /*tag= a
/standard_name= "Ribosome binding site"
9..1520

FT /*tag= b
/product= "SLAP1 fusion protein"

FT misc_feature 12..332
/*tag= c

FT /*note= "SLPI coding region"
333-335

FT /*tag= d
/note= "linking codon"

FT misc_feature 336..1517
/*tag= e

FT /*note= "AAT coding region"

XX WO200250287-A2.

XX 27-JUN-2002.

XX 18-DEC-2001; 2001WO-US49256.

XX 18-DEC-2000; 2000US-256699P.

XX 20-NOV-2001; 2001US-331966P.

XX (ARRI-) ARRIVA PHARM INC.

XX Barr PJ, Gibson HL, Pemberton P;

XX WPI; 2002-500631/53.

XX P-PSDB; ANU99881.

XX Novel fusion protein useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, comprises a first protease inhibitor comprising alpha 1-antitrypsin and a second protease inhibitor -

XX Example 1; Page 73-73; 134pp; English.

XX This invention relates to a novel fusion protein comprising a first protease inhibitor comprising an alpha1-antitrypsin or its functionally active portion and a second protease inhibitor or its functionally active protein. The fusion proteins of the invention may act as an inhibitor of protease activity. The fusion protein of the invention is useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, chronic obstructive pulmonary disease, cystic fibrosis, otitis media, otitis externa or HIV infection, or for treating an individual suffering from or at risk for a disease or disorder involving unwanted protease activity. The proteins are useful for treating dermatological diseases such as atopic dermatitis, eczema and psoriasis, in inflammatory responses to viral infection, and for treating herpes infection, corneal or epidermal ulceration, chronic non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease, tumour metastasis and tumour angiogenesis, gastric ulceration, osteoporosis, Paget's disease, glomerulonephritis, scleroderma, malaria, bacterial infection, Alzheimer's disease, hypertension and muscular dystrophy. The present sequence represents the DNA encoding the SLAP1 fusion protein of the invention.

XX Sequence 1525 BP; 467 A; 286 C; 314 G; 458 T; 0 other;

Query Match 78.1%; Score 1191.6; DB 24; Length 1525;
Best Local Similarity 99.7%; Pred. No. 1.6e-289;
Matches 1194; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TCTAGACCATGGAAGACCTCAAGCGCGCGCTCAAAAAACCGACACCATCATCAGC 60

CC is useful for inhibiting protease activity associated with a disorder
CC such as emphysema, asthma, chronic obstructive pulmonary disease,
CC cystic fibrosis, otitis media, otitis externa or HIV infection, or
CC for treating an individual suffering from or at risk for a disease or
CC disorder involving unwanted protease activity. The proteins are useful
CC for treating dermatological diseases such as atopic dermatitis, eczema
CC and psoriasis, in inflammatory responses to viral infection, and for
CC treating herpes infection, corneal or epidermal ulceration, chronic
CC non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease,
CC tumour metastasis and tumour angiogenesis, gastric ulceration,
CC osteoporosis, Paget's disease, glomerulonephritis, scleroderma, malaria,
CC bacterial infection, Alzheimer's disease, hypertension and muscular
CC dystrophy. The present sequence represents the DNA encoding the
CC TAP1 fusion protein of the invention.
XX
SQ

Sequence 1756 BP; 493 A; 395 C; 373 G; 495 T; 0 other;

Query Match 78.0%; Score 1188.8; DB 24; Length 1756;
Best Local Similarity 99.8%; Pred. No. 8.3e-289;
Matches 1190; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 7 CCATGGAAGACCCCTCAAGCGAGCGCGCTCAAAAAACCCACACAGTCATCAGACCAAG 56
DB 562 CCATGGAAGACCCCTCAAGCGAGCGCGCTCAAAAAACCCACACAGTCATCAGACCAAG 621
QY 67 ACCATCCGACTTTTAAATAAAATTTACTCCAAATTTAGCCGAATTTGCTTTTCTTGATA 126
DB 622 ACCATCCGACTTTTAAATAAAATTTACTCCAAATTTAGCCGAATTTGCTTTTCTTGATA 581
QY 127 GACAATAGTCATCAAAAGTAATTTACTTAACATTTTTTTTATGCTGTTTCTTAATGCCA 186
DB 682 GACAATAGTCATCAAAAGTAATTTACTTAACATTTTTTTTATGCTGTTTCTTAATGCCA 741
QY 187 CTGCTTTCCGCAATTTGAGTTAGTTAGTACTAAAGCCGATACCCATGACGAGATTTAGAG 246
DB 742 CTGCTTTCCGCAATTTGAGTTAGTTAGTACTAAAGCCGATACCCATGACGAGATTTAGAG 801
QY 247 GTTTAAACCTTTTAAATTTGACCGAATCCAGAGCCCAAAATTCACGAGGTTTTCAGAGCT 306
DB 802 GTTTAAACCTTTTAAATTTGACCGAATCCAGAGCCCAAAATTCACGAGGTTTTCAGAGCT 861
QY 307 TGTGAGAACTTTGAACTCAACCTGATTTCAATTTGCAATTTAACTACTGTAACGGTTTAT 366
DB 862 TGTGAGAACTTTGAACTCAACCTGATTTCAATTTGCAATTTAACTACTGTAACGGTTTAT 921
QY 367 TTTTGTCTGAAGCTTTAAATTTGGTTGACAAATTTCTACAAGACGTCAGAAGCTATATC 426
DB 922 TTTTGTCTGAAGCTTTAAATTTGGTTGACAAATTTCTACAAGACGTCAGAAGCTATATC 981
QY 427 ATAGTCAGGCTTTTACCCTTTAATTTTGGTGATCTAGGAGCTAAAAAGCAAAATTAATG 486
DB 982 ATAGTCAGGCTTTTACCCTTTAATTTTGGTGATCTAGGAGCTAAAAAGCAAAATTAATG 1041
QY 487 ATTATGTTGAGAAAGCCACCCAGGTAAGATCGTTGACCTAGTTAAAGAAATTTAGATCGTG 546
DB 1042 ATTATGTTGAGAAAGCCACCCAGGTAAGATCGTTGACCTAGTTAAAGAAATTTAGATCGTG 1101
QY 547 ATACCGCTCTTCGACCTAGTTAACTATATTTTTCAGGGTAAGTGGGAACGCTCTTCG 606
DB 1102 ATACCGCTCTTCGACCTAGTTAACTATATTTTTCAGGGTAAGTGGGAACGCTCTTCG 1161
QY 607 AGTTAAAGATCTGAAGAGGAAGATTTTCATGTTGATCAAGTTTACTGTCGAAGTTC 666
DB 1162 AGTTAAAGATCTGAAGAGGAAGATTTTCATGTTGATCAAGTTTACTGTCGAAGTTC 1221
QY 667 CAATGATGAAAGACTGGGTATGTTCAATTAATCAATTCGCAAAATTAAGTCTCTGGG 726
DB 1222 CAATGATGAAAGACTGGGTATGTTCAATTAATCAATTCGCAAAATTAAGTCTCTGGG 1281
QY 727 TCTTATTAATGAATTTAGGTAACGCTACTGCTATTTTTTTTTTACCAGACGAAGTA 786
DB 1282 TCTTATTAATGAATTTAGGTAACGCTACTGCTATTTTTTTTTTACCAGACGAAGTA 1341

QY 787 AGCTTCAACATTTAGAGAAATGAGTTGACTCATGACATATTACTAAATTTTAGAGACG 846
DB 1342 AGCTTCAACATTTAGAGAAATGAGTTGACTCATGACATATTACTAAATTTTAGAGACG 1401
QY 847 AGGATCGTGTAGCGCTTCTCTGCAACCTGCGCAAAAGTTAAGTATCACCGGTACTTACGACT 906
DB 1402 AGGATCGTGTAGCGCTTCTCTGCAACCTGCGCAAAAGTTAAGTATCACCGGTACTTACGACT 1461
QY 907 TAAATCTGTTTATAGGCGAGTTAGTATTAACAAAGTTTCTTCAACGGTCCGATTTGA 966
DB 1462 TAAATCTGTTTATAGGCGAGTTAGTATTAACAAAGTTTCTTCAACGGTCCGATTTGA 1521
QY 967 GTGGTGTACTGAAGACCTCCATTAATAATGAGTAAAGCTGTTACAAAGCCGCTCTAA 1026
DB 1522 GTGGTGTACTGAAGACCTCCATTAATAATGAGTAAAGCTGTTACAAAGCCGCTCTAA 1581
QY 1027 CTATTGATGAAAGGTTACCGAGCGCGCGCTATGTTCTTGAAGCTATTCCAATGA 1086
DB 1582 CTATTGATGAAAGGTTACCGAGCGCGCGCTATGTTCTTGAAGCTATTCCAATGA 1641
QY 1087 GCATTCACACAGAGTTAAATTTAATAAACCATTCGTTTTCTGATGATCGAGCAGAACA 1146
DB 1642 GCATTCACACAGAGTTAAATTTAATAAACCATTCGTTTTCTGATGATCGAGCAGAACA 1701
QY 1147 CTAAAGCCCATTTGTTATGGTAAAGTTGTCAACCCCAACTCAGAAGATGTC 1198
DB 1702 CTAAAGCCCATTTGTTATGGTAAAGTTGTCAACCCCAACTCAGAAGATGTC 1753
RESULT 6
ABK88024
ID ABK88024 standard; DNA; 1582 BP.
XX
AC ABK88024;
XX
DT 07-OCT-2002 (first entry)
XX
DE DNA sequence encoding N-TAP1 fusion protein.
XX
KW NTAP1; gene; ds; Alzheimer's disease; tumour angiogenesis;
KW malaria; emphysema; asthma; chronic obstructive pulmonary disease;
KW cystic fibrosis; otitis media; otitis externa; HIV; psoriasis; eczema;
KW human immunodeficiency virus; atopic dermatitis; muscular dystrophy;
KW herpes; ulceration; sepsis; rheumatoid arthritis; periodontal disease;
KW tumour metastasis; osteoporosis; Paget's disease; scleroderma;
KW glomerulonephritis; hypertension.
OS Homo sapiens.
XX Synthetic.
XX
Key Location/Qualifiers
RBS 6..8
FT /*tag= a
FT /standard_name= "Ribosome binding site"
FT 9..1577
FT /*tag= b
FT /product= "NTAP1 fusion protein"
FT 12..389
FT /*tag= c
FT /note= "TIMP-1 coding region"
FT 390..392
FT /*tag= d
FT /note= "linking codon"
FT 393..1574
FT /*tag= e
FT /note= "AAT coding region"
PN WO2002050287-A2.
XX
PD 27-JUN-2002.
XX
PF 18-DEC-2001; 2001WO-US49256.
XX

PR 18-DEC-2000; 2000US-256699P.
PR 20-NOV-2001; 2001US-331966P.
XX (ARRI-) ARRIVA PHARM INC.
XX PI Barr PJ, Gibson HL, Pemberton P;
XX PI WPI: 2002-500631/53.
XX P-PSDB; AAU99883.
XX Novel fusion protein useful for inhibiting protease activity associated
PT with a disorder such as emphysema, asthma, comprises a first protease
PT inhibitor comprising alpha 1-antitrypsin and a second protease
PT inhibitor
XX Example 2; Page 85-86; 134pp; English.
XX This invention relates to a novel fusion protein comprising a first
CC protease inhibitor comprising an alpha1-antitrypsin or its functionally
CC active portion and a second protease inhibitor or its functionally
CC active protein. The fusion proteins of the invention may act as an
CC inhibitor of protease activity. The fusion protein of the invention
CC is useful for inhibiting protease activity associated with a disorder
CC such as emphysema, asthma, chronic obstructive pulmonary disease, or
CC cystic fibrosis, otitis media, otitis externa or HIV infection, or
CC for treating an individual suffering from or at risk for a disease or
CC disorder involving unwanted protease activity. The proteins are useful
CC for treating dermatological diseases such as atopic dermatitis, eczema
CC and psoriasis, in inflammatory responses to viral infection, and for
CC treating herpes infection, corneal or epidermal ulceration, chronic
CC non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease,
CC tumour metastasis and tumour angiogenesis, gastric ulceration,
CC osteoporosis, Paget's disease, glomerulonephritis, scleroderma, malaria,
CC bacterial infection, Alzheimer's disease, hypertension and muscular
CC dystrophy. The present sequence represents the DNA encoding the
XX NTAPI fusion protein of the invention.
SQ Sequence 1582 BP; 464 A; 333 C; 329 G; 456 T; 0 other;
Query Match 77.8%; Score 1187; DB 24; Length 1582;
Best Local Similarity 99.6%; Pred. No. 2.3e-288;
Matches 1190; Conservative 0; Mismatches 5; Indels 0; Gaps 0;
QY 4 AGACCATGGAAGACCCCTCAAGCGGACGCGCTCAAAAACCGACACCATCATCAGACC 63
DB 385 AGGAATGGAAGACCCCTCAAGCGGACGCGCTCAAAAACCGACACCATCATCAGACC 444
QY 64 AGACCATCCGACTTTTAATAAATTAATCTCCAAATTTAGCCGAATTTCTCTTTTGT 123
DB 445 AGACCATCCGACTTTTAATAAATTAATCTCCAAATTTAGCCGAATTTCTCTTTTGT 504
QY 124 ATAGACAATTAGCTCATCAAGTAATCTTACTTAACATTTTTTTAGTCTCTGTTTATTTG 183
DB 505 ATAGACAATTAGCTCATCAAGTAATCTTACTTAACATTTTTTTAGTCTCTGTTTATTTG 564
QY 184 CCACCTGTTTCGCCATGTTGAGTTAGTCTAGTCTAAGCGCATACCATCATCAGAGATTTAG 243
DB 565 CCACCTGTTTCGCCATGTTGAGTTAGTCTAAGCGCATACCATCATCAGAGATTTAG 624
QY 244 AGGTTTAACTTTAATTTGACCGAATCCAGAGCCCAATTCACGAGGTTTCAAG 303
DB 625 AGGTTTAACTTTAATTTGACCGAATCCAGAGCCCAATTCACGAGGTTTCAAG 684
QY 304 AGTTGTTGAGAACTTTGAATCAACCTGATCTCAATTTGCAATTAATCTAGTCTGTAACGGTT 363
DB 685 AGTTGTTGAGAACTTTGAATCAACCTGATCTCAATTTGCAATTAATCTAGTCTGTAACGGTT 744
QY 364 TATTTTGTCTGAAGGTTTAAATTTGGTTGACAAATTCCTAGAGACGTCAGAACTAT 423
DB 745 TATTTTGTCTGAAGGTTTAAATTTGGTTGACAAATTCCTAGAGACGTCAGAACTAT 804
QY 424 ATCATAGTAGGCTTTTACCGTTAATTTGGTGATCTAGGAGCTCAAAAGCAAAATTA 483

DB 805 ATCATAGTAGGCTTTTACCGTTAATTTTGGTGATCTAGGAGAGCTAAAAAGCAAAATTA 864
QY 484 ATGATTATGTTGAGAAAGCGCACCGAGGTAGATCGTTGACCTAGTTAAAGAAATTAGATC 543
DB 865 ATGATTATGTTGAGAAAGCGCACCGAGGTAGATCGTTGACCTAGTTAAAGAAATTAGATC 924
QY 544 GTGATACCGCTCTTCGCACCTAGTTAACTATATTTTCAAGGGTAAAGTGGGAAGCTCCT 603
DB 925 GTGATACCGCTCTTCGCACCTAGTTAACTATATTTTCAAGGGTAAAGTGGGAAGCTCCT 984
QY 604 TCGAGGTTAAAGATACTGAAGAGAGAGATTTTCATGTTGATCAAGTTACTACTGTCAAG 663
DB 985 TCGAGGTTAAAGATACTGAAGAGAGAGATTTTCATGTTGATCAAGTTACTACTGTCAAG 1044
QY 664 TTCCAATGATGAAAGACTGGGTATGTTCAATATTTCAACATTTGCAAAAAATTAAGTTCT 723
DB 1045 TTCCAATGATGAAAGACTGGGTATGTTCAATATTTCAACATTTGCAAAAAATTAAGTTCT 1104
QY 724 GGGTCTTATTAATGAAGTATTTAGGTAAAGCTACTGCTATTTTTTTTACAGACGAG 783
DB 1105 GGGTCTTATTAATGAAGTATTTAGGTAAAGCTACTGCTATTTTTTTTACAGACGAG 1164
QY 784 GTAAGCTTCAACATTTAGAGAATGAGTTGACATGACATTAATTAATTTTAGAGA 843
DB 1165 GTAAGCTTCAACATTTAGAGAATGAGTTGACATGACATTAATTAATTTTAGAGA 1224
QY 844 ACAGAGATCGTCTAGCGCTCTCTGCACCTGCGCAAGTTAAAGTATCACCGGTACTTACG 903
DB 1225 ACAGAGATCGTCTAGCGCTCTCTGCACCTGCGCAAGTTAAAGTATCACCGGTACTTACG 1284
QY 904 ACTTAAATCTGTTTGGCCAGTTAGGTATTAACCAAGTTTTTTTCTAACGGTGGCGATT 963
DB 1285 ACTTAAATCTGTTTGGCCAGTTAGGTATTAACCAAGTTTTTTTCTAACGGTGGCGATT 1344
QY 964 TGAGTGGTGTACTGAAGAAGCTCCATTAATTAATGATGAAGCTGTTCAAAAGCGCTCT 1023
DB 1345 TGAGTGGTGTACTGAAGAAGCTCCATTAATTAATGATGAAGCTGTTCAAAAGCGCTCT 1404
QY 1024 TAACTATTGATGAAAGGGTACCGAGCGCGCGCTATGTTCTCTGGAAGCTATTTCCAA 1083
DB 1405 TAACTATTGATGAAAGGGTACCGAGCGCGCGCTATGTTCTCTGGAAGCTATTTCCAA 1464
QY 1084 TGAGCATTTCCACAGAGTTAAATTAATAACCATTCGTTTTCTGATGATCGACAGAGA 1143
DB 1465 TGAGCATTTCCACAGAGTTAAATTAATAACCATTCGTTTTCTGATGATCGACAGAGA 1524
QY 1144 ACATAAAGCCCATTTGTTTATGGTAAAGCTTGTCAACCAACTCAGAAGATGTC 1198
DB 1525 ACATAAAGCCCATTTGTTTATGGTAAAGCTTGTCAACCAACTCAGAAGATGTC 1579

RESULT 7
ABK88015
ID ABK88015 standard; DNA; 1182 BP.
XX
AC ABK88015;
XX
DT 07-OCT-2002 (first entry)
XX
DE DNA encoding human alpha-1-antitrypsin (AAT) protein.
XX Alpha-1-antitrypsin; AAT; human; gene; ds; protease inhibitor; malaria;
KW emphysema; asthma; chronic obstructive pulmonary disease; eczema;
KW cystic fibrosis; otitis media; otitis externa; HIV; psoriasis;
KW human immunodeficiency virus; atopic dermatitis; muscular dystrophy;
KW herpes; ulceration; sepsis; rheumatoid arthritis; periodontal disease;
KW tumour metastasis; tumour angiogenesis; osteoporosis; Paget's disease;
KW glomerulonephritis; scleroderma; Alzheimer's disease; hypertension.
XX Homo sapiens.
XX
FH Key Location/Qualifiers
FT CDS 1..1182

FT /*tag= a
FT /product= "Alpha-1-antitrypsin"
FT /partial
FT /note= "No start or stop codon shown"
XX
PN WO200250287-A2.
XX
PD 27-JUN-2002.
XX
XX 18-DEC-2001; 2001WO-US49256.
XX PF
XX 18-DEC-2000; 2000US-256699P.
PR 20-NOV-2001; 2001US-331966P.
XX
XX (ARRI-) ARRIVA PHARM INC.
XX
XX Barr PJ, Gibson HL, Pemberton P;
XX
XX WPI; 2002-500631/53.
DR P-PSDB; AAU99873.
XX
XX

Novel fusion protein useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, comprises a first protease inhibitor comprising alpha 1-antitrypsin and a second protease inhibitor -

Disclosure; Page 24-25; 134pp; English.

CC This invention relates to a novel fusion protein comprising a first
CC protease inhibitor comprising an alpha1-antitrypsin or its functionally
CC active portion and a second protease inhibitor or its functionally
CC active protein. The fusion proteins of the invention may act as an
CC inhibitor of protease activity. The fusion protein of the invention
CC is useful for inhibiting protease activity associated with a disorder
CC such as emphysema, asthma, chronic obstructive pulmonary disease,
CC cystic fibrosis, otitis media, otitis externa or HIV infection, or
CC for treating an individual suffering from or at risk for a disease or
CC disorder involving unwanted protease activity. The proteins are useful
CC for treating dermatological diseases such as atopic dermatitis, eczema
CC and psoriasis, in inflammatory responses to viral infection, and for
CC treating herpes infection, corneal or epidermal ulceration, chronic
CC non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease,
CC tumour metastasis and tumour angiogenesis, gastric ulceration,
CC osteoporosis, Paget's disease, glomerulonephritis, scleroderma,
CC bacterial infection, Alzheimer's disease, hypertension and muscular
CC dystrophy. The present sequence represents the DNA encoding the human
CC alpha-1-antitrypsin (AAT) protein used to create the fusion protein
CC of the invention.

XX Sg Sequence 1182 BP; 369 A; 214 C; 229 G; 370 T; 0 other;

Query Match 77.5%; Score 1182; DB 24; Length 1182;
Best Local Similarity 100.0%; Pred. No. 3.7e-287;
Matches 1182; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 12 GAAGACCTCAAGCGGACGGCTCAAAAACCGACACCACTCATCACACCAAGACCAT 71
Db 1 GAAGACCTCAAGCGGACGGCTCAAAAACCGACACCACTCATCACACCAAGACCAT 60
Qy 72 CCGACTTTAATTAATAATTAATTAATTAATTAATTAATTAATTAATTAATTAATTAAT 131
Db 61 CCGACTTTAATTAATAATTAATTAATTAATTAATTAATTAATTAATTAATTAATTAAT 120
Qy 132 TTAGCTCATCAAGTAATTAATTAATTAATTAATTAATTAATTAATTAATTAATTAATTAAT 191
Db 121 TTAGCTCATCAAGTAATTAATTAATTAATTAATTAATTAATTAATTAATTAATTAATTAAT 180
Qy 192 TTGCCCCATGTGAGTTAGTACTAAAGCCGATACCCATGACGAGATTTTAGAAGGTTTA 251
Db 181 TTGCCCCATGTGAGTTAGTACTAAAGCCGATACCCATGACGAGATTTTAGAAGGTTTA 240
Qy 252 AACTTTAATTTGACCGAAATCCCAAGAGCCCAATTCACGAGGTTTTCAGAGGTTGTTG 311
XX

Db 241 AACTTTAATTTGACCGGAAATCCAGAAAGCCCAAAATTCACGAGGGTTTTCAAGAGTTGTTG 300
Qy 312 AGAAGCTTTGAATCAACCTGATCTCAATTTGCAATTAAGTACTAGGTAACGGTTATTTTGTG 371
Db 301 AGAAGCTTTGAATCAACCTGATCTCAATTTGCAATTAAGTACTAGGTAACGGTTATTTTGTG 360
Qy 372 TCTGAAGGTTTAAATTTGTTGACAAATTCCTAGAGAGCTCAAGAAACATATATCATAGT 431
Db 361 TCTGAAGGTTTAAATTTGTTGACAAATTCCTAGAGAGCTCAAGAAACATATATCATAGT 420
Qy 432 GAGGCTTTTACCGTTAAATTTTGGTGATCTGAGGAGCTAAAAAAGCAATTAATGATTAT 491
Db 421 GAGGCTTTTACCGTTAAATTTTGGTGATCTGAGGAGCTAAAAAAGCAATTAATGATTAT 480
Qy 492 GTTGAGAAAGGACCCAGGTAAGATCGTTGACCTAGTTAAAGAAATTAGATCGTGATACC 551
Db 481 GTTGAGAAAGGACCCAGGTAAGATCGTTGACCTAGTTAAAGAAATTAGATCGTGATACC 540
Qy 552 GTCTTCGCACTAGTTAACTATATATTTTCAAGGGTAAGTGGGAAAGCTCTTTCGAGGTT 611
Db 541 GTCTTCGCACTAGTTAACTATATATTTTCAAGGGTAAGTGGGAAAGCTCTTTCGAGGTT 600
Qy 612 AAAGTACTCAAGAGAGAGATTTTTCATGTTGATCAAGTTTACTACTCTCAAAAGTTCCAATG 671
Db 601 AAAGTACTCAAGAGAGAGATTTTTCATGTTGATCAAGTTTACTACTCTCAAAAGTTCCAATG 660
Qy 672 ATGAAAAGACTGGGTATGTTCAATATTCACATATTCACAAATTAAGTCTTTCGGGTCTTA 731
Db 661 ATGAAAAGACTGGGTATGTTCAATATTCACATATTCACAAATTAAGTCTTTCGGGTCTTA 720
Qy 732 TTAATCAAGTATTTAGGTAACCTACTGCTATTTTTCATGTTTACCAGAGAGGTAAGCTT 791
Db 721 TTAATCAAGTATTTAGGTAACCTACTGCTATTTTTCATGTTTACCAGAGAGGTAAGCTT 780
Qy 792 CAACATTTAGAGAAAGTGTGATCTCATGACATTTACTTAAATTTTACAGAACGAGAT 851
Db 781 CAACATTTAGAGAAAGTGTGATCTCATGACATTTACTTAAATTTTACAGAACGAGAT 840
Qy 852 CGTCGTAGCGCTTCCTGCAACCTGCAAGTTAAGTATACCGGTACTTACGACTTAAAA 911
Db 841 CGTCGTAGCGCTTCCTGCAACCTGCAAGTTAAGTATACCGGTACTTACGACTTAAAA 900
Qy 912 TCTGTTTTAGGCGAGTGTAGTATTTACCAAGTTTTCCTAACGGTCCGATTTGAGTGT 971
Db 901 TCTGTTTTAGGCGAGTGTAGTATTTACCAAGTTTTCCTAACGGTCCGATTTGAGTGT 960
Qy 972 GTTACTGAAGAAGCTCCATTAATAATTTAGTAAAGCTGTTTCAAAAGCGGTCTTAACTATT 1031
Db 961 GTTACTGAAGAAGCTCCATTAATAATTTAGTAAAGCTGTTTCAAAAGCGGTCTTAACTATT 1020
Qy 1032 GATGAAAAGGTTACCGAGCGCGCGCTATGTTCCCTGGAAGCTATTTCCCAATGAGCAT 1091
Db 1021 GATGAAAAGGTTACCGAGCGCGCGCTATGTTCCCTGGAAGCTATTTCCCAATGAGCAT 1080
Qy 1092 CCACAGAGAGTTTAAATTTAAATTAACCATTTCTGTTGATGATCGAGCAGAACACTAAA 1151
Db 1081 CCACAGAGAGTTTAAATTTAAATTAACCATTTCTGTTGATGATCGAGCAGAACACTAAA 1140
Qy 1152 AGCCCATGTTTATGGGTAAGGTTGTCACACCACTCAGAAG 1193
Db 1141 AGCCCATGTTTATGGGTAAGGTTGTCACACCACTCAGAAG 1182

RESULT 8

AAV41730

ID AAV41730 standard; DNA; 1260 BP.

XX

AAV41730;

XX

DT 20-NOV-1998 (first entry)

XX

DE Codon-Optimised Ramy3D signal fused to DNA encoding mature AAT.

XX

ID AAQ89254 standard; cDNA; 1312 BP.
 XX AAQ89254;
 XX 18-OCT-1995 (first entry)
 XX Human alpha-1-trypsin cDNA.
 XX Alpha-1-trypsin; protease-inhibitor; ss.
 XX Homo sapiens.
 XX Key Location/Qualifiers
 FH 28..1258
 FT CDS /tag= a
 FT sig_peptide 28..99
 FT mat_peptide 100..1255
 FT /tag= b
 FT /tag= c
 XX US5399684-A.
 XX 21-MAR-1995.
 XX 20-MAY-1982; 82US-0380310.
 XX 20-MAY-1982; 82US-0380310.
 XX 07-FEB-1984; 84US-0638980.
 XX 03-MAR-1987; 87US-0022543.
 XX 15-DEC-1987; 87US-0133190.
 XX 16-SEP-1988; 88US-0246912.
 XX 22-AUG-1989; 89US-0398288.
 XX 11-MAR-1991; 91US-0666450.
 XX 18-NOV-1992; 92US-0979556.
 XX 02-JUL-1993; 93US-0086442.
 XX (WASH-) WASHINGTON RES FOUND.
 XX Davie EW, Kurachi K, Thirumalachary C, Woo SLC;
 XX WPI; 1995-130740/17.
 XX P-PSDB; AAR71969.
 XX Human alpha-1-trypsin (al-AT) cDNA sequence - can be used for
 PT the expression of al-AT
 XX Claim 1; Fig.1; 15pp; English.
 XX The sequence of a human alpha-1-antitrypsin cDNA clone is given in
 CC AAQ89254. Expression of the cDNA in host cell transformants has
 CC allowed production of recombinant alpha-1-antitrypsin.
 XX Sequence 1312 BP; 339 A; 368 C; 324 G; 281 T; 0 other;
 SQ
 Query Match 28.3%; Score 432.2; DB 16; Length 1312;
 Best Local Similarity 60.4%; Pred. No. 1.1e-98;
 Matches 713; Conservative 0; Mismatches 468; Indels 0; Gaps 0;
 QY 12 GAAGACCCCTCAAGGCGCGCTCAAAATTTAGCCGAATTTGCTTTTCTGTATAGACAA 71
 DB 100 GAGGATCCCCAGGAGATGCTGCCAGAGACAGATATATCCACCATTGATCAGGATCAC 159
 QY 72 CCGACTTTTAATAAATTTACTCCAAATTTAGCCGAATTTGCTTTTCTGTATAGACAA 131
 DB 160 CCAACCTTCAACAAGATCACCCCAACTTTGGCTGAGTTGGCTTCAGCCTATACCGCCAG 219
 QY 132 TTAGCTCATCAAGTAATTTCTACTAACATTTTTTTTGTCTGTCTGTATGCGACATGCT 191
 DB 220 CTGGCACACCATGTCACAGACCAATATCTTCTCTCCCGAGTGAGCATCGCTACAGCC 279
 QY 192 TTCGCATGTTGAGTTTGTAGTAAAGCCGATACCCATGACGAGATTTAGAGAGTTTA 251
 DB 280 TTGCAATGCTCTCCCTGGGGACCAAGCTGACACTCACGATGAATTCCTGGAGGGCGTG 339

OY 252 AACTTTAATTTGACGGAATCCCAAGCCCAATTCACGAGGGTTTTCAGAGATTTGTTG 311
 DB 340 AATTTCAACCTCAGGAGATTTCCGAGGCTCAGATTCATGANGCTTCCAGGAATCCTC 399
 QY 312 AGAATTTTGAATCAACCTGATTTCTCAATTTGCAATTAATTAATTAATTAATTTTGG 371
 DB 400 CGTACCTTCAACCAAGCCAGACAGCCAGCTCCAGCTGACCCGCAATGGCTTCTCCTC 459
 QY 372 TCTGAAGGTTTAAATTTGGTTGACAAATTTCTAGAACGCTCAAGAACTATATCATAGT 431
 DB 460 AGCAGGCGCTGAAGCTAGTGGATAAGTTTGGAGGATGTTAAAAAGTTGTACCACTCA 519
 QY 432 GAGGCTTTTACCGTTAAATTTTGGTGATAGGAGGAGCTAAAAAGCAAAATTAATGATTAT 491
 DB 520 GAAGCCTTCACTGTCAACTTCGGGGACACGAGAGCCCAAGAACAGATCAAGGATTAC 579
 QY 492 GTTGAGAAAGCCACCCAGGGTAAAGTGTGACCTAGTTAAAGAAATTTAGATCGTGATACC 551
 DB 580 GTGGAGAGGGTACTCAAGGGGAAATTTGTGGATTTGGTCAAGGAGCTTGACAGAGACACA 639
 QY 552 GTCTTCGCACCTAGTTAACTATATTTTCAAGGGTAAAGTGGGAACGCTCTTCGAGGTT 611
 DB 640 GTTTTGTCTGGTGAATTTACATCTTCTTAAAGGCAATGGGAGAGACCCCTTTGAAGTC 699
 QY 612 AAGATACTGAAGAGGAGGATTTTCATTTGTGATCAAGTTACTACTGTCAAAAGTTCCAATG 671
 DB 700 AAGGACACCGAGGAAGAGGACTTCCACGTGGACAGCTGACCCGCTGAAGGTGCTCTATG 759
 QY 672 ATGAAAGAGCTGGTATTTCAATATTTCAACATTTGCAAAATTAAGTTCTTGGGCTCTTA 731
 DB 760 ATGAAGCGTTTAGGCATGTTTAAACATCCAGCATTTGAAGAGCTGTCCAGCTGGTGCTG 819
 QY 732 TTAATGAAGTATTTAGGTAACGCTACTGCTATTTTATTTTACCAGACGAGGTAAGCTT 791
 DB 820 CTGATGAATACCTGGGCAATGCCACGCCATCTTCTCTCTGCTGATGAGGGGAACTA 879
 QY 792 CAACATTTAGAGATGAGTTGACTCATGACATTTACTAAATTTTATAGAGAACGAGGAT 851
 DB 880 CAGACCTGGAAATGAACCTCACCCAGATATCATCACCAGTTCCTGGAAAAATGAAGAC 939
 QY 852 CGTCGTAGCGCTTCTCTGACCTGCCAACTTAAGTATACCCGCTACTTACGACTTAAAA 911
 DB 940 ARAAGGTTCCGAGCTTACATTTACCCTGCTTCTGCTGCTGATGAGGCTATGATCTGAAG 999
 QY 912 TCTGTTTATAGCCAGTTAGGTATTAACAAAGTTTCTTAAACCGTCCCGATTTGAGTGGT 971
 DB 1000 AGCGTCTCTAGTCAACTGGGCATCACTAAGGCTTTCAGCAATGGGCTGACCTCTCCGG 1059
 QY 972 GTTACTCAAGAAAGCTCCATTAATAATTTGAGTAAAGCTGTTCAACAAGCCGCTTAACTAT 1031
 DB 1060 GTCACAGAGGAGGACCCCTGGAAGCTCTCCAGGCGGTGATTAAGGCTGTGCTGACCATC 1119
 QY 1032 GATGAAAGGGTACCGAGGCGCGCGCTATGTTCTTGGAGCTATTCCAATGAGCATTT 1091
 DB 1120 GACGAGAAAGGGACTGAAGCTGCTGGGGCATGTTTTTAGAGGCCCATACCATGCTCTATC 1179
 QY 1092 CCACCAGAGTTAAATTTAATAAACCATTTGCTTTTCTGATGATCGAGCAGAACACTAAA 1151
 DB 1180 CGCCCCGAGTCAAGTTCAACAACCCCTTTGTCTTCTTATGATTTGAACAAAATACCAAG 1239
 QY 1152 AGCCCCATTTGTTAGGTAAAGTTGTCAACCCCAACTCAGAA 1192
 DB 1240 TCTCCCTCTTCAATGGGAAGTGGTGAATCCCAACCCCAAA 1280
 RESULT 10
 AAQ89254
 ID AAQ89254
 XX AAQ89254 standard; cDNA; 1312 BP.
 XX AAQ89254;
 XX 18-OCT-1995 (first entry)
 XX Human alpha-1-trypsin cDNA.
 XX Alpha-1-trypsin; protease-inhibitor; ss.
 XX Homo sapiens.
 XX Key Location/Qualifiers
 FH 28..1258
 FT CDS /tag= a
 FT sig_peptide 28..99
 FT mat_peptide 100..1255
 FT /tag= b
 FT /tag= c
 XX US5399684-A.
 XX 21-MAR-1995.
 XX 20-MAY-1982; 82US-0380310.
 XX 20-MAY-1982; 82US-0380310.
 XX 07-FEB-1984; 84US-0638980.
 XX 03-MAR-1987; 87US-0022543.
 XX 15-DEC-1987; 87US-0133190.
 XX 16-SEP-1988; 88US-0246912.
 XX 22-AUG-1989; 89US-0398288.
 XX 11-MAR-1991; 91US-0666450.
 XX 18-NOV-1992; 92US-0979556.
 XX 02-JUL-1993; 93US-0086442.
 XX (WASH-) WASHINGTON RES FOUND.
 XX Davie EW, Kurachi K, Thirumalachary C, Woo SLC;
 XX WPI; 1995-130740/17.
 XX P-PSDB; AAR71969.
 XX Human alpha-1-trypsin (al-AT) cDNA sequence - can be used for
 PT the expression of al-AT
 XX Claim 1; Fig.1; 15pp; English.
 XX The sequence of a human alpha-1-antitrypsin cDNA clone is given in
 CC AAQ89254. Expression of the cDNA in host cell transformants has
 CC allowed production of recombinant alpha-1-antitrypsin.
 XX Sequence 1312 BP; 339 A; 368 C; 324 G; 281 T; 0 other;
 SQ

XX Nucleotide sequence of the alpha-1-antitrypsin.
 DE Human alpha-1-antitrypsin; ATR-1; antibody; ATR-1 deficiency; ss.
 KW Homo sapiens.
 XX
 OS
 XX
 FH Key Location/Qualifiers
 FT CDS 28..1257
 FT /*tag= a
 FT /product= "alpha-1-antitrypsin"
 XX
 XX US5736379-A.
 PN 07-APR-1998.
 XX
 XX 07-JUN-1995; 95US-0479545.
 XX
 XX 20-MAY-1982; 82US-0380310.
 PR 07-FEB-1984; 84US-0638980.
 PR 03-MAR-1987; 87US-0022543.
 PR 15-DEC-1987; 87US-0133190.
 PR 16-SEP-1988; 88US-0246912.
 PR 22-AUG-1989; 89US-0398288.
 PR 11-MAR-1991; 91US-0666450.
 PR 18-NOV-1992; 92US-0979556.
 PR 02-JUL-1993; 93US-0086442.
 PR 12-DEC-1994; 94US-0361689.
 XX
 XX (WASH-) WASHINGTON RES FOUND.
 XX
 XX Davie EW, Kurachi K, Thirumalachary C, Woo SLC;
 DR WPI; 1998-239214/21.
 DR P-PSDB; AAW56709.
 XX
 XX DNA encoding alpha-1 anti-trypsin - useful for, e.g. producing
 PT recombinant alpha-1 anti-trypsin
 XX
 XX Claim 1; Fig 1; 15pp; English.
 XX
 CC This is the nucleotide sequence encoding the novel human
 CC alpha-1-antitrypsin (ATR-1) protein. Its products are useful for
 CC producing recombinant ATR-1 polypeptides, which can be used to prepare
 CC antibodies for detecting ATR-1 variants in the blood, as ligands in
 CC assays for ATR-1, and to treat ATR-1 deficiency.
 XX
 XX Sequence 1312 BP; 339 A; 368 C; 324 G; 281 T; 0 other;
 SQ
 Query Match 28.3%; Score 432.2; DB 19; Length 1312;
 Best Local Similarity 60.4%; Pred. No. 1.1e-98;
 Matches 713; Conservative 0; Mismatches 468; Indels 0; Gaps 0;
 0;
 QY 12 GAAGACCCCTAAGGCGAGCGCGCTCAAAAACCGGACAGATCATCAGCAGCAAGACCAT 71
 DB 100 GAGGATCCCGAGGAGATGCTGCCAAGAGACAGATACATCCCATGATCAGGATCAC 159
 QY 72 CCACATTTTAAATAAATTAATCTCAAAATTTAGCGGAATTTGCTTTTCTTTGTATAGACAA 131
 DB 160 CCACCTTCAAGATACACCCCACTTGGCTGAGTTCGCTTCAGCCATATACGCCAG 219
 QY 132 TTAGCTCATCAAAAGTAACTTACTAATATTTTATAGTCCTGTTCTATTGCCACTGCT 191
 DB 220 CTGGCACACAGTCCCAACAGACCAATATCTTCTCCCGAGTGAGCATCGCTACAGCC 279
 QY 192 TTCCCATGTTGAGTTAGTACTAAGCGGATACCCATGACGAGATTTTAGAAGGTTTA 251
 DB 280 TTTGCAATGCTCTCCCTGGGGACCAAGCTTGACATCATCATGATGAATCTCGAGGCGCTG 339
 QY 252 AACTTTTAAATTTGACGAAATCCCAAGGCGCAAAATTCACGAGGTTTTCACAGAGTTGTTG 311
 DB 340 AATTTCAACCTCAGGAGATTCGGAGGCTCAGATCCATGAAGGCTTCCAGGAACCTCCTC 399

QY 312 AGAATCTTGAATCAACCTGATTTCTCAATGCAATTAAGTACTGTTAAGCGTTTATTTTGG 371
 DB 400 CGTACCTTCAACCCAGCAGACAGCCAGCTCCAGCTGACCCCGCAATGGCGTGTCTC 459
 QY 372 TCTGAAGGTTTAAATTTGTTGACAAATTCCTAGAGAGCTCAAGAAACTATATCATAGT 431
 DB 460 AGCGAGGCTGAAGCTAGTGTAGTATTTTGGAGGATGTTAAAAAGTTGTACCACTCA 519
 QY 432 GAGGCTTTTACCGTTAAATTTTGTGTATCTAGGAGAGCTTAAAGCAATTAATGATAT 491
 DB 520 GAAGCCTTCACTGTCAACTTCGGGGACACCGAAGAGGCCAAGAAACAGATCAACGATTAC 579
 QY 492 GTTGAGAAAGGACCCAGGTAAGATCGTTGACCTAGTTTAAAGAAATTAGATCGTGATACC 551
 DB 580 GTGGAGAAGGGTACTCAAGGGAATTTGGGATTTGGTCAAGAGCTTGACAGAGCACA 639
 QY 552 GTCTTCGCACTAGTTAACTATATTTTTTCAAGGGTAAGTGGGAACGCTCTTTCGAGGTT 611
 DB 640 GTTTTGTCTGTGTGATTTACATCTTCTTTAAGGCAATGGGAGAGACCTTTTGAAGTC 699
 QY 612 AAAGATCTGAAGAGGAAGATTTTCATGTGTGATCAAGTACTACTGTCAAAGTTCCAATG 671
 DB 700 AAGCACCGGAGGAGGAGGACTTCCACGTGGACAGGTGACCACCGTGAAGTGCCTATG 759
 QY 672 ATGAAAGAGCTGGGTATGTTCAATATTCACATTCGCAAAATTAAGTTCTTGGGTCTTA 731
 DB 760 ATGAAGCGTTTGGGCATGTTTAACTCCAGCATGTGAAGAGCTGCCAGCTGGGTGCTG 819
 QY 732 TTAATGAAGTATTTAGTAACTGCTACTGTCTATTTTTTTTACCAGCAAGGTAAGCTTT 791
 DB 820 CTGATGAATACCTGGCAATGCCCGCCATCTTCTCTGCTGATGAGGGGAAACTA 879
 QY 792 CAACATTTAGAGAATGAGTTGACTCATGACATTTACTATAATTTTATAGAGACGAGGAT 851
 DB 880 CAGCACCTGGAAAATGAACCTCACCCAGCATATCATCACCAGTTCTCTGGAAAATGAAGAC 939
 QY 852 CGTGTGAGCTTCTCTGCACTGCCAAAGTTAAGTATACCGGTACTTACGACTTAAAA 911
 DB 940 AGAAGGTCTGCCAGCTTACATTTACCCAACTGTCCATTAAGTGTGAACCTATGATCTGAAG 999
 QY 912 TCTGTTTTAGCCAGTTAGTATTTACCAAGTTTCTTAAAGTGGCGGATTTGAGTGGT 971
 DB 1000 AGCGTCTAGTCAACTGGGCATCACTAAGCTCTTACAGCAATGGGGCTGACCTCTCGGG 1059
 QY 972 GTTACTGAAGAGCTCCATTAATAATTCAGTAAAGCTGTTCAAAAGCGCTTAACTATT 1031
 DB 1060 GTCACAGAGGAGGACCCCTGAAGCTCTCCAAAGCGCGTATAGGCTGTGCTGACCATC 1119
 QY 1032 GATGAAAAGGTACCGAGGCGCGGCGCTATGTTCTTGGAAAGCTATTTCAATGAGCAT 1091
 DB 1120 GACGAGAAAGGACTGAAGTGTGGGCGCATGTTTTTAGAGGCCATACCCATGCTATC 1179
 QY 1092 CCACCAGAGTTAAATTAATAAACCATTCGTTTTCTGATGATCGAGCAGACACTAAA 1151
 DB 1180 CGCCCGAGGTCAGTTCACAAACCCCTTTGCTCTTCTTAATGATTGAACAAAATACCAAG 1239
 QY 1152 AGCCCATGTTTATGGTAAAGTTGTCAACCCCACTCAGAA 1192
 DB 1240 TCTCCCTCTTCTATGGGAAAAGTGTGTAATCCCAACCAAA 1280
 RESULT 11
 AAZ90199
 ID AAZ90199 standard; cdna; 1312 BP.
 XX
 AC AAZ90199;
 XX
 DT 19-MAY-2000 (first entry)
 XX
 DE Human alpha-1-antitrypsin nucleotide sequence.
 XX
 KW Alpha-1-antitrypsin; neutrophil elastase inhibitor; human; ss;
 KW chronic obstructive pulmonary emphysema; infantile liver cirrhosis.

XX Homo sapiens.
 OS US6025161-A.
 PN 15-FEB-2000.
 PD 20-JAN-1998; 98US-0009581.
 PF 07-JUN-1995; 95US-0479545.
 PR 20-MAY-1982; 82US-0380810.
 PR 07-FEB-1984; 84US-0638980.
 PR 03-MAR-1987; 87US-0022543.
 PR 15-DEC-1987; 87US-0133190.
 PR 16-SEP-1988; 88US-0246912.
 PR 22-AUG-1989; 89US-0398288.
 PR 11-MAR-1991; 91US-0666450.
 PR 18-NOV-1992; 92US-0979556.
 PR 02-JUL-1993; 93US-0086442.
 PA (WASH-) WASHINGTON RES FOUND.
 XX
 XX Woo SLC, Thirumalachary C, Kurachi K, Davie EW;
 PI WPI; 2000-181811/16.
 DR P-PSDB; AAY78890.
 XX
 XX preparing alpha1-antitrypsin for inhibiting neutrophil elastase
 PT involves transfecting host cell with vector comprising
 PT alpha1-antitrypsin DNA sequence that hybridizes to human
 XX alpha1-antitrypsin cDNA, or its complement -
 PS Claim 1; Fig 1; 16pp; English.
 XX
 XX This sequence represents the human alpha1-antitrypsin nucleotide
 CC sequence. Alpha1-antitrypsin is an important protease inhibitor, the
 CC major function of which is to inhibit neutrophil elastase. Low levels of
 CC alpha1-antitrypsin in the blood are associated with chronic obstructive
 CC pulmonary emphysema and infantile liver cirrhosis. A vector comprising a
 CC mammalian alpha1-antitrypsin DNA sequence that hybridizes to human
 CC alpha1-antitrypsin cDNA can be introduced into a host cell in a method
 CC for the production of alpha1-antitrypsin.
 XX
 SQ Sequence 1312 BP; 339 A; 368 C; 324 G; 281 T; 0 other;

Query Match 28.3%; Score 432.2; DB 21; Length 1312;
 Best Local Similarity 60.4%; Pred. No. 1.1e-98;
 Matches 713; Conservative 0; Mismatches 468; Indels 0; Gaps 0;

QY 12 GAAGACCTCAAGCGGAGCGGCTCAAAAAACCGACACCATCATCACGACCAAGACCAT 71
 DB 100 GAGGATCCCGAGGAGATGCTGCCAGACACAGATACATCCACCATGATCAGGATCAC 159
 QY 72 CCGACTTTTAAATAAATTTACTCCAAATTTAGCCGAATTTCTTTCTTTTGTATAGACAA 131
 DB 160 CCACTTCAACAGATACACCCCAATTTGGCTGAGTTCGCTTACGCTTATACCGCCAG 219
 QY 132 TTAGCTCATCAAGTAATTTACTAATATTTTCTAGTCTCTTTCTTTCTTTCTTTCTTT 191
 DB 220 CTGSCACACAGTCCACACACACCATATCTTCTTCTCCAGTGCATCGCTACAGCC 279
 QY 192 TTGCCATGTTGAGTTTGTAGTACTAAGCCGATACCCATGACGAGATTTTAGAAGGTTA 251
 DB 280 TTTGCAATGCTCTCCCTGGGAGCAAGGCTGACACTCAGCATCAATCTCTGGAGGCCCTG 339
 QY 252 AACTTTTAAATTTGACGAAATCCAGAGCCCAATTTACAGAGGTTTTCAGAGTTGTTG 311
 DB 340 AATTTCACCTCAGGAGATCCCGAGGCTCAGATCCATGAAGGCTTCAGGAACCTTC 399
 QY 312 AGAAGTTTGAATCAACCTGATTTCTCAATTTGCAATTAAGTACTGTTAGCGTTTATTTTGG 371
 DB 400 CGTACCTCAACAGCAGACACACGCTCCAGCTGACCCAGCGCAATGGCTGTTTCTTC 459

QY 372 TCTGAAGGTTTAAAAATTTGGTTGACAAAATTTCTAGAACGCTCAAGAACTATATCATAGT 431
 DB 460 AGCGAGGGCTGAAGCTAGTGGATAAGTTTTTTGGAGGATGTTAAAAAGTTGTACCACTCA 519
 QY 432 GAGGCTTTTACCCTTAATTTTGGTGATCTAGGAGAGCTAAAAAGCAAAATTAATGATTAT 491
 DB 520 GAAGCCTTCACTGTCAAACTTCGGGGACACGGAAGAGGCCAAGAACAGATCAACGATTAC 579
 QY 492 GTTGAGAAAGGCACCCAGGGTAAAGATCGTTGACCTAGTTAAAGAAATTAGATCTGATACC 551
 DB 580 GTGAGAGGGTACTCAAGGGAATTTGTGGATTTTGTCAAGGAGCTTGACAGAGACACA 639
 QY 552 GTCTTCCACTAGTTAACTATATTTTTCAGGGTAAAGTGGGAAGCTCTTTTCGAGGTT 611
 DB 640 GTTTTCTGCTGTGGTGAATTTACATCTTCTTTAAAGGCAAAATGGGAGAGACCCCTTGAAGTC 699
 QY 612 AAGATACCTCAAGAGGAGATTTTTCATGTTGATCAAGTTACTACTGTCAAGTTCAATG 671
 DB 700 AAGACACCCAGGAAGAGGACTTCCACGTGGACCGGTGACCACTGAAAGGTGCTCTATG 759
 QY 672 ATGAAAGACTGGGTATGTTCAATATTTCAACATTTCAAAAAATTAAGTTCTTGGGCTTA 731
 DB 760 ATGAGCGTTTAGGCATGTTTAACATCCAGCATTTGAAGAGCTGTCCAGCTGGGTGCTG 819
 QY 732 TTAATGAAGTATTAGGTAACGCTACTGCTATTTTTTTTTTACCAGACGAAGTAAGCTT 791
 DB 820 CTGATGAAATACCTGGGCAATGCCACGGCATCTTCTCTCTGCTGATGAGGGAACAATA 879
 QY 792 CAACATTTAGAGATGAGTTGACTCATGACATATTACTAATAATTTTAGAAGACGAGGAT 851
 DB 880 CAGCAGCTGGAATGAATCACTCCACGATATCATCACCAGTTCTCTGGAATGAAGAC 939
 QY 852 CGTCGTAGCGCTTCTCTGCACCTGCCAAAGTTAAGTATCACCGGTACTTACGACTTAAAA 911
 DB 940 AGAAGGCTGCCAGCTTACATTTACCCAAACGTCTCCATTACTGGAACCTATGATCTGAAG 999
 QY 912 TCTGTTTTAGCCAGTTAGTATTACCAAGTTTTTTCTAACGGTGCCGATTTGAGTGTG 971
 DB 1000 AGCGTCTAGGTCAACTGGGCATCACTAAGAGTCTTTCAGCAATGGGGCTGACCTCTCCGG 1059
 QY 972 GTTACTGAAGAAGTCCATTAATAATTTGAGTAAGTCTTCAAAAAGCCGCTCTTAACTATT 1031
 DB 1060 GTCACAGAGAGGACCCCTCGAAGCTCTCCAGGCGCTCATAGGCTGTGCTGACCATC 1119
 QY 1032 GATGAAAGGGTACCGAGCGCCGGCGCTATGTTCTCGAAGCTATTCCAAATGAGCATT 1091
 DB 1120 GACGAGAAAGGAGCTGAAGCTGCTGGGGCATGTTTTTAGAGGCCATACCCATGCTATC 1179
 QY 1092 CCACCAAGAGTTAAATTTAATAAACCATTCGTTTTTCTGATGATCGAGCAGAACACTAAA 1151
 DB 1180 CGCGCCGAGTCAAGTTCAACAAACCCCTTTGTCTTTAATGATTGAACAAAATACCAAG 1239
 QY 1152 AGCCCATTTGTTAGGGTAAGGTTGTCAACCCCACTCGAA 1192
 DB 1240 TCTCCCTCTTCATGGGAAAAGTGGTGAATCCACCCCAAAA 1280
 RESULT 12
 AAS45052
 ID AAS45052 standard; cDNA; 1367 BP.
 XX
 AC AAS45052;
 XX
 XX
 DT 18-DEC-2001 (first entry)
 XX
 DE cDNA encoding novel human secretory protein, Seq ID No 133.
 XX Human; secreted protein; arthritis; Crohn's disease; sepsis; shock;
 KW ischaemia-reperfusion injury; haematopoiesis; cancer; neuropathy;
 KW transgenic animal; Alzheimer's disease; Parkinson's disease; burn;
 KW amyotrophic lateral sclerosis; platelet disorder; thrombocytopenia;
 KW ulcer; osteoporosis; bone degenerative disorder; periodontal disease;
 KW gut protection; lung; liver fibrosis; immune deficiency; infection;

severe combined immunodeficiency; SCID; autoimmune disorder; allergy;
multiple sclerosis; rheumatoid arthritis; diabetes mellitus; asthma;
fertility; analgesic; pain; antigen; ss.

XX Homo sapiens.

XX WO200166689-A2.

XX 13-SEP-2001.

XX 05-MAR-2001; 2001WO-US04942.

XX 07-MAR-2000; 2000US-0519705.

XX 19-MAY-2000; 2000US-0574454.

XX 17-JUN-2000; 2000US-0596193.

XX 14-JUL-2000; 2000US-0616847.

XX 19-SEP-2000; 2000US-0665363.

XX 20-OCT-2000; 2000US-0693267.

XX (HYSE-) HYSEQ INC.

XX Tang YT, Liu C, Asundi V, Xu C, Wehrman T, Ren F, Ma Y, Zhou P;
PI Zhao QA, Yang Y, Drmanac RT, Zhang J, Chen R, Xue AJ, Wang J;
XX WPI: 2001-589934/66.
XX P-PSDB; AAU28152.

XX Novel polypeptides and nucleic acids obtained from cDNA libraries
prepared from various human tissues, for diagnosis and treatment of
cancer, neurological, inflammatory, and autoimmune disorders -
XX Claim 1; SEQ ID No 133; 107pp; English.

XX The invention relates to novel isolated human secreted polypeptides (I)
and polynucleotides (II). (I) and (II) are useful for treating
inflammatory conditions such as arthritis, nephritis, Crohn's disease,
ischaemia-reperfusion injury, shock, sepsis, immune responses, and is
involved in increasing haematopoiesis, stem cell survival, bone growth
and remodeling. (I), (II) and modulators of (II) are useful for
prophylaxis or treatment of one or more cancers. (II) is also useful for
creating transgenic animals useful for studying the in vivo activities of
the polypeptide as well as for studying modulators of the polypeptides.
(I) induces the proliferation of neural cells and regeneration of nerve
and brain tissue and is useful for the treatment of central and
peripheral nervous system diseases and neuropathies, such as Alzheimer's,
Parkinson's disease, Huntington's disease, and amyotrophic lateral
sclerosis. In addition, (I) is involved in chemotactic or chemokinetic
activity, regulation of haematopoiesis and is useful for treating myeloid
or lymphoid cell disorders, platelet disorders such as thrombocytopenia
and for regeneration of bone, cartilage, tendon, ligament and/or nerve
tissue growth, and in tissue repair, healing of burns, incisions,
ulcers, for treating osteoporosis, osteoarthritis, bone degenerative
disorders, or periodontal disease. Furthermore, (I) is also useful for
gut protection or regeneration and treatment of lung or liver fibrosis,
reperfusion injury in various tissues, various immune deficiencies and
disorders including severe combined immunodeficiency (SCID), bacterial or
fungal infections, autoimmune disorders e.g. multiple sclerosis,
rheumatoid arthritis, diabetes mellitus, myasthenia gravis, allergic
reactions and conditions, such as asthma or other respiratory problems.
In addition, (I) affects biorhythms or circadian cycles of rhythms,
fertility, metabolism, catabolism, anabolism, storage or elimination of
dietary fat, lipid, protein, carbohydrate, vitamins, minerals, provides
analgesic effects or other pain reducing effects, immunoglobulin like
activity and can act as an antigen in a vaccine composition to raise an
immune response. AAS44920-AAS45295 represent novel human secreted protein
coding sequences of the invention.

XX Sequence 1367 BP; 357 A; 392 C; 323 G; 295 T; 0 other;

Query Match 28.1%; Score 429.2; DB 22; Length 1367;
Best Local Similarity 60.7%; Pred. No. 6.6e-98;
Matches 718; Conservative 0; Mismatches 463; Indels 1; Gaps 1;

QY 12 GAAGACCCCTCAAGGCGACGCGCTCAAAAACCGACACAGTCATCACGACCAAGACCAT 71
DB 105 GAGATCCCAGGAGATGCTGCCAGAGACAGATACATCCACCATCAGGATCAC 164
QY 72 CCAGCTTTTAAATAAATTTACTCCAAATTTAGCGGAATTTGCTTTTCTTTGTATAGACAA 131
DB 165 CCAACCTTCAACAAGATCAACCCCAACCTGGCTGAGTTCCGCTTACGCTATACCCCGAG 224
QY 132 TTAGCTCATCAAGATTAATTTCTACTTAACATTTTCTTTAGTCTCTTTTCTTTTGTGCT 191
DB 225 CTGGCACACAGGTCACACAGCACAATCTCTCTCTCCAGTGGAGCATCGCTACAGCC 284
QY 192 TTGCGCATGTTGAGTTTAGGTACTTAAAGCGGATACCCATGACAGATTTTGAAGGTTTA 251
DB 285 TTTGCAATGCTCTCCCTGGGGGCAAGGCTGACACTCAGATGAAATCTCTGGAGGCGCTG 344
QY 252 AACTTTAAATTTGACCGGAAATCCAGAGCCCAATTCAGAGGGTTTCAAGAGTTGTTG 311
DB 345 AATTTCAACCTCACGGAGATTCCGGAGGCTCAGATCCATGAAGGCTTCCAGGAACCTCTC 404
QY 312 AGAATTTGAATCAACCTGATTTCTCAATTTCAATTTACTTACTTAAAGGTTTATTTTGTG 371
DB 405 CGTACCTTCAACCGACAGACAGCCAGCTCCAGTGCACCGCAATGGCTGTTCCTC 464
QY 372 TCTGAAGGTTTAAATTTGGTTGACAAATTCCTAGAGACGCTCAAGAACTATATCATAGT 431
DB 465 AGCGAGGCGCTGAGCTAGTGGATAGTTTGGAGGATGTTTAAAGTTGTACCACTCA 524
QY 432 GAGCGTTTACCGTTAAATTTTGGTGAT-ACTGAGGAAGCTTAAAGCAAAATTAATGATTA 490
DB 525 GAACCTTCACTGTCACCTTCGGGGATCACCGAGAGGCCAAGAACAGATCAACGATTA 584
QY 491 TGTGAGAAAGGACACCGAGGTAAGATCGTTGACCTAGTTTAAAGAAATAGATCGTGATAC 550
DB 585 CGTGAGAAAGGCTACTCAAGGGAATTTGGTATTTGTCAGAGAGCTTGACAGAGACAC 644
QY 551 CGTCTTGCACACTAGTAACTATATTTTCAAGGGTAAGTGGGAAGCTGCTTTCGAGGT 610
DB 645 AGTTTGTCTCTGTTGATATACATCTTCTTAAAGGCAATGGAGAGACCTTTTGAAGT 704
QY 611 TAAAGATCTCAAGAGGAAGATTTTCATGTTGATCAAGTTACTTACTCTCAAGTTCCAAT 670
DB 705 CAAGACACCGAGGACGAGGACTTCCAGTGGACCGAGTGCACCGCTGAAGGTCCCTAT 764
QY 671 GATGAAAGACTGGGTATGTTCAATATTCACATTCAGAAATTAAGTTCTTGGGTCTT 730
DB 765 GATGAAGCTTTAGGCACTGTTTAACTCCAGCATCTGAAGAGCTGTCCAGCTGGGTACT 824
QY 731 ATTAATGAATTTAGTAAAGCTACTGCTATTTTATTTTACCAGAGGTAAGCT 790
DB 825 GCTAATGAATACCTGGGCAATGCCACCGCATCTTCTCTACCTGATGAGGGGAAC 884
QY 791 TCAACATTTAGAGATGAGTTGACTCATGACATTTACTTAATTTTGAAGAACGAGGA 850
DB 885 ACAGCACCTGAAATGAATCAACCCAGATATCATACCAGGTTCTCTGGAATGANGA 944
QY 851 TCGTGTAGCGCTTCTCTGCACCTTCCCAAGTTAAGTATACCGGTACTTACGACTTAAA 910
DB 945 CAGAAGTCTGCCAGCTTACATTTACCAAACTGTCCATTACTGGAACCTATGATCTGAA 1004
QY 911 ATCTCTTTTAGGCCAGTTAGGTATTTACAAAGTTTCTTAAAGTCCCGGATTTGAGTGG 970
DB 1005 GAGCGTCTGGGTCAACTGGGCTACCTTAAGTCTTTCAGCAATGGGGCTGACCTCTCCGG 1064
QY 971 TGTACTGAAGAGCTCCATTAATTAAGTAAAGCTGTTCCAAAGCGGCTTCTTAACTAT 1030
DB 1065 GGTACAGAGAGGAGGACCCCTGAAGCTCTCCAAAGGCGGTGATAGGTGTGCTGACCAT 1124
QY 1031 TGAATGAAGGCTACCGAGGCGCGCGGCTATGTTCTCTGGAAGCTATTTCAAGTACGAT 1090
DB 1125 CGACGAGAGGAGCTGAGCTGCTGGGGCCATGTTTTAGAGGCCATACCAATGCTCTAT 1184
QY 1091 TCCACCAGAAGTTAAATTTAATAAACCATTCGTTTTTCTGTATGATCGAGCAGAACACTAA 1150

Db 1185 CCCCCCAGAGGTCAGTTCACAAACCCCTTCTCTCTTAATGATGACAAATACCAA 1244
Qy 1151 AGCCCATTTGTTATGGGTAAGGTTGTCACCCCACTCAGAA 1192
Db 1245 GTCTCCCTCTTTCATGGGAAAGTGTGTAATCCCAACCAAAA 1286

RESULT 13

AAV41726

ID AAV41726 standard; DNA; 1185 BP.

XX

AC AAV41726;

XX

DT 20-NOV-1998 (first entry)

XX

DE Native coding sequence of mature alpha1-antitrypsin (AAT).

XX

KW Protein expression; monocotyledon plant cell;

KW glycosylated alpha 1-antitrypsin; AAT; glycosylated antithrombin III;

KW ATIII; human serum albumin; HSA; subtilisin BPN'; treatment; emphysema;

KW antithrombotic; blood replacement; ss.

XX

OS Homo sapiens.

XX

PN W09836085-A1.

XX

PD 20-AUG-1998.

XX

PF 13-FEB-1998; 98WO-US03068.

XX

PR 13-FEB-1997; 97US-0038170.

XX

PR 13-FEB-1997; 97US-0037991.

XX

PR 13-FEB-1997; 97US-0038168.

XX

PR 13-FEB-1997; 97US-0038169.

XX

PA (PHYT-) APPLIED PHYTOLOGICS INC.

XX

PI Rodriguez RL, Sutcliffe TD;

XX

XX WPI; 1998-467179/40.

DR P-PSDB; AAW59839.

XX

PT Expressing mature, glycosylated proteins in monocotyledonous plant

PT cells - from chimeric gene including signal peptide sequence,

PT specifically therapeutic agents and industrial enzymes

XX

PS Disclosure; Page 29; 53pp; English.

XX

The present sequence represents the native coding sequence of mature alpha1-antitrypsin (AAT). The protein is used to exemplify the invention. The specification describes a method for producing mature heterologous protein in monocotyledonous plant cells. The method comprises transforming the cells with a chimeric gene comprising a monocotyledon transcription regulator, inducible either during seed maturation or by adding/removing a small molecule, DNA encoding the heterologous protein, and DNA encoding a signal peptide, with the signal peptide causing secretion of the protein from the cell. Proteins expressed in this manner include mature glycosylated alpha 1-antitrypsin (AAT) with a glycosylation pattern that significantly increases its serum half-life, mature glycosylated antithrombin III (ATIII), mature human serum albumin (HSA) having the native folding pattern as shown by bilirubin-binding characteristics, or mature active subtilisin BPN'. These proteins are useful therapeutically (e.g. AAT for treating emphysema, ATIII as antithrombotic and HSA as blood replacement) or as industrial enzymes (BPN' is used in detergents).

XX Sequence 1185 BP; 328 A; 324 C; 283 G; 250 T; 0 other;

XX

Query Match

Best Local Similarity 28.13; Score 429; DB 19; Length 1185;

Matches 711; Conservative 0; Mismatches 470; Indels 0; Gaps 0;

Qy 12 GAAGACCTCAAGCGGAGCGGCTCAAAAAACCGACACACAGTCAATCAGACCAAGACCAT 71
Db 1 GAGGATCCCGAGGAGATGCTGCGCCAGAGACAGATACATCCCAACCATGATCAGGATCAC 60
Qy 72 CCGACTTTTAAATAAATTTACTCCAAATTTAGCCGAATTTGCTTTTCTTTCTTTGTTAGACAA 131
Db 61 CCAACCTTCAACAGATCACCCCAACCTGGCTGAGTTCGCTTCAGCCTATACGCCAG 120
Qy 132 TTAGCTCATCAAGTAATTTCTACTTAACATTTTTTTTATAGTCTCTGTTCTATTTGCCACTGT 191
Db 121 CTGGCACACCAAGTCCCAACAGACCAATATCTTCTCTCCCAAGTGGAGCATCGCTACAGCC 180
Qy 192 TTGCCCATGTTAGTTTAAAGCCGATACCCATGACAGATTTTAGAAGGTTTA 251
Db 181 TTTGCAATGCTCTCCCTGGGGACCAAGGCTGACACTCAGATGAAATCTCTGGAGGCCCTG 240
Qy 252 AACTTTAATTTGACCGAAATCCAGAAAGCCAAATTCACGAGGGTTTTCGAAGAGTTGTTG 311
Db 241 AATTTCAACCTCAGGAGATTCGGAGGCTCAGATCCATGAAGCTTCCAGGAACCTC 300
Qy 312 AGAATTTGAATCAACCTGATTTCTCAATTCGAATTAACACTACTGTAACGGTTTATTTTGG 371
Db 301 CGTACCCTCAACAGCCAGACAGCCAGCTCCAGCTGACCAACCGCAATGCGCTGTTCCCTC 360
Qy 372 TCTGAAGTTTAAATTTGTTGACAAATTCCTAGAGACGCTCAAGAACTATATCATAGT 431
Db 361 AGCGAGGGCTGAAAGCTAGTGGATAAGTTTGGAGGATGTTAAAAAGTTGTACCACTCA 420
Qy 432 GAGCTTTTACCGTTAATTTTGGTGATGAGGAGCTAAAGAGCTAAAAAGCAAAATTAATGAT 491
Db 421 GAAGCTTCTACTGTCAACTTCGGGGACCCGAAAGAGCCCAAGAAACAGATCAACGATTAC 480
Qy 492 GTTGAGAAAGCCACCCAGGTAAGATCGTTGACCTAGTTTAAAGAAATTAGATCGTGATACC 551
Db 481 GTGGAGAAGGGTACTCAAGGGGAAATTTGTGATTTGCTCAAGGAGCTTGACAGAGACACA 540
Qy 552 GTCTTCCACTAGTTAACTATATTTTTTCAAGGGTAAGTGGGAAGCTGCTTTTCGAGGTT 611
Db 541 GTTTTCTCTGTTGAAATTAACATCTCTTTTAAAGGCAAAATGGGAGAGACCTTTGAAGTC 600
Qy 612 AAAGATACTGAAGGAAGATTTTTCATGTTGATCAAGTTACTACTGTCAAAGTTTCCAATG 671
Db 601 AAGGACACCGAGAGAGAGACTTCCAGTGGACCGAGCTGACCAACCGTGAAGGTGCTATG 660
Qy 672 ATGAAAGACTGGGTATGTTTCAATATTTCAACATTTGCAAAAAATTAAGTTCTTGGGTCTTA 731
Db 661 ATGAAGCGTTTAGGCATGTTTAACTCCAGCACTGTAAGAAGCTGTCAGCTGGGTGCTG 720
Qy 732 TTAATGAAGTATTTAGTAAAGCTACTGCTATTTTTTTTTTACCAGCAAGGTAAGCTTT 791
Db 721 CTGATGAAATFACCTGGGCAATGCCCGCCATCTTCTCTGCTGATGAGGGGAACTA 780
Qy 792 CAACATTTAGAGAAATGAGTTGACTCATGATATTTACTTAAATTTTATAGAACAGGAGAT 851
Db 781 CAGCACTTGAAGAAATGAACTACCCAGATATCATCACCAGTTCTCTGGAATATGANGAC 840
Qy 852 CGTCTGAGCGCTTCTCTGCACTGCCAAAGTTAAGTATCACCAGGTACTTACGACTTTAAA 911
Db 841 AGAAGGTCTGCCAGCTTACATTTACCAAACTGTCCATTTACGGAACCTATGATCTGAAG 900
Qy 912 TCTGTTTTAGGCCAGTTAGTATTTACCAAGTTTCTTAAACGGTCCGATTTGAGTGGT 971
Db 901 AGCGTCTGGGTCAACTGGGCATCACTAAGGTCTTCAGCAATGGGGCTGACCTCTCCGGG 960
Qy 972 GTTACTGAAGAAGCTCCATTTAAATTTAGTAAAGCTGTTTCAAAAGCCGCTCTTAATATT 1031
Db 961 GTCACAGAGAGGACCCCTCGAAGCTCTCCAGGCCGCTGCATGAAGCTGTGCTGACCATC 1020
Qy 1032 GATGAAAGGGTACCGAGCCCGCGCTATGTTCTTGGAAAGCTATTTCCAATGAGCAATT 1091
Db 1021 GAGGAGAAAGGGACTCAAGCTGCTGGGGCCATGTTTTTTAGAGGCCCATACCCATGCTATC 1080
Qy 1092 CCACCAGAGTTAAATTTTAAATAACCATTCGCTTTTTTCTGATGATCGAGGACAGACATAA 1151

Db 1081 CCCCCGAGTCAAGTTCAACAAACCCCTTTGTTCTTATGATTGAACAAATACCAAG 1140
Qy 1152 AGCCCATGTTTATGGTGAAGTTGTCACCAACTCAGAA 1192
Db 1141 TCTCCCTCTTCAATGGGAAAGTGGTGAATCCACCCAAAA 1181

RESULT 14

AAQ31403

ID AAQ31403 standard; DNA; 1352 BP.

XX AC

XX AC

XX AC

XX AC

XX 23-MAR-1993 (first entry)

XX Human alpha-1 antitrypsin.

XX DE

XX Human alpha-1 antitrypsin.

XX XX

XX Plasmid; pCMV4; liposome; antiprotease; lung; emphysema;

XX KW adult respiratory distress syndrome; ARDS; ss.

XX KW

XX Homo sapiens.

XX OS

XX W09219730-A.

XX PN

XX 12-NOV-1992.

XX XX

XX 27-MAR-1992; 92WO-US02465.

XX PF

XX 24-APR-1991; 91US-0690283.

XX PR

XX (UYVA-) UNIV VANDERBILT.

XX PA

XX Brigham K, Canonico A, Conary J, Meyrick B;

XX PI

XX WPI; 1992-398857/48.

XX DR

XX Human alpha-1 anti-trypsin contg. plasmid - for treatment of

XX PT anti-protease deficiency in emphysema and other lung diseases

XX PT

XX Disclosure; Fig 6a-6b; 32pp; English.

XX PS

XX A plasmid consisting of a pCMV4 expression vector including a coding

XX CC sequence of human alpha-1 antitrypsin may be incorporated into

XX CC liposomes capable of targeting specific tissue. The plasmid is then

XX CC capable of expression of the gene extrachromosomally in the cells of

XX CC the target tissue and is unincorporable into the chromosome of the

XX CC cells of the target tissue. Thus, the liposome including the

XX CC plasmid can be used in a method for treating a deficiency of the

XX CC gene product in cells of the target tissue.

XX CC The specific use of the human alpha-1 antitrypsin is significant as

XX CC this antiprotease is important in protecting the lungs against

XX CC emphysema. The adult respiratory distress syndrome (ARDS) is thought

XX CC to involve a relative deficiency of antiprotease activity.

XX CC Therefore, the delivery of a functioning alpha-1 antiprotease

XX CC gene to the lungs can be therapeutic in many human conditions

XX CC characterised by injury of the lungs.

XX XX

SQ Sequence 1352 BP; 349 A; 386 C; 325 G; 292 T; 0 other;

Query Match 28.1%; Score 429; DB 13; Length 1352;
Best Local Similarity 60.2%; Pred. No. 7.4e-98;
Matches 711; Conservative 0; Mismatches 470; Indels 0; Gaps 0;

Qy 12 GAAGACCTCAAGGCGAGCGCGCTCAAAAAACCGACACAGTCATCAGCAACCAAGACCAT 71
Db 92 GAGGATCCCCAGGAGATGCTGCCGAGACAGATACATCCACCATGATCAGATCAC 151
Qy 72 CGGACTTTTAAATAAATTAATCTCAAAATTTAGCCGAATTTGCTTTTCTGTATAGACAA 131
Db 152 CCAACCTTCAACAGATCACCCCAACCTGGCTGAGTTCGGCTTCAGCCTATACGGCCAG 211
Qy 132 TTAGCTCATCAAGTAATCTACTAACAATTTTTTTTAGTCTGTTCTATTGCCCAGTCT 191

Mon Dec 9 12:50:32 2002

672	QY	ATGAAAGACGTGGGTATGTTCAATATTCAACATGTCAGAAAATTAAGTTCCTGGGTCTTA	731
752	Db	ATGAAGCGCTTTAGGCATGTTTAACTATCCAGACTGAAGAAGCTGTCCAGCTGGGTGCTG	811
732	QY	TTAATGAAGTATTTAGGTAAACGGTACTGCTATATTTTTTTTACCAGACGAAGGTAAAGCTT	791
812	Db	CTGATGAATACCTGGGCAATGCCACGCCATCTTCTCTGCTGATGAGGGGAAACTA	871
792	QY	CAACATTTAGAAGATGAGTTGACTCATGACATTAATTAATTAATTTTACAGAACACGAGAT	851
872	Db	CAGCACCTGGAAAATGAACATCACCGAGTATCATCACCAAGTTCTCGAAAATGAGAC	931
852	QY	CGTCGTAGCGTTCCTGTCACCTGCCAAAAGTTAAGTATCACCGGTACTTACGACTTAAA	911
932	Db	AGAAGGTCGCCAGCTTACATTTACCCAAACTGTCCACTACTGGAACCTATGATCTGAAG	991
912	QY	TCGTGTTTAGGCCAGTTAGGTATTACAAAGTTTTTTTCTAACCGTCCCGATTTGAGTGGT	971
992	Db	AGCGCTCGGTTCAACTGGGCGATCACTAAGGTCTTACAGAAATGGGCTGACCTCTCCGG	1051
972	QY	GTTACTGAAGAGCTCCATTAATAATTGATTAAGAGCTTTCACAAAGCCGTCTTAACATT	1031
1052	Db	GTCACAGAGGAGCACCCCTGAGCTCTCCAAGCCGTGCATAAAGGTGTGTGTGACCATC	1111
1032	QY	GATGAAAAGGTPACGAGGCCCGCGGCTATGTTTCTTGGAAAGCTATTCCAATGACGATT	1091
1112	Db	GACGAGAAAGGACATGAAGCTGCTGGGCGCATGTTTTTAGAGCGCATACCATGTCTATC	1171
1092	QY	CCACCAGAAGTTAAATTAATAAACCATTCGTTTTTCTGATGATCGAGCAGAACACATAA	1151
1172	Db	CCCCCGAGGTCAGTTTCAACAACCCCTTGTCTCTTAATGATTGAACAAAATACCAAG	1231
1152	QY	AGCCCATTTGTTTAGGTAAGGTTGTC AACCCAACTCAGAA	1192
1232	Db	TCCTCCCTCTTCATGGGAAAAGTGGTGAATCCCAACCAAA	1272

Search completed: December 6, 2002, 23:44:55
Job time : 238.5 secs